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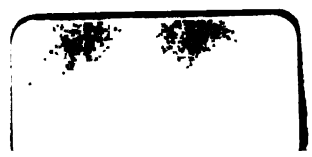

15 & 16 VICTORIÆ, Cap. 83. Sec. XXXII.

ALPHABETICAL INDEX

OF

PATENTEES AND APPLICANTS FOR PATENTS OF INVENTION,

For the Year 1870.

Printed and Published by Order of the Commissioners of Patents,

UNDER THE

ACT of 15 & 16 VICTORIÆ, Cap. 83. Sec. XXXII.

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ALPHABETICAL INDEX

OF

PATENTEES AND APPLICANTS FOR PATENTS OF INVENTION,

FOR THE YEAR 1870.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
			A.
ABEL, CHARLES DENTON -	72	10th June 1870	Treatment of cast iron for the production of castings therefrom. (*Communicated by Nicholas John Poutiloff.*)
ABEL, CHARLES DENTON -	362	8th Feb. 1870	Apparatus for taking soundings at sea. (*Communicated by Joseph Badin.*)
ABEL, CHARLES DENTON -	889	26th March 1870	Machinery for grinding and polishing saws, also applicable for grinding and polishing sheets or plates of steel and other metals. (*Communicated by William Jackson Lippincott.*)
ABEL, CHARLES DENTON -	1569	30th May 1870	Improvements in the manufacture of sockets and ferrules of wrought iron and other metals, and in machinery employed for that purpose. (*Communicated by Robert Briggs.*)
ABEL, CHARLES DENTON -	1570	30th May 1870	Improvements in the manufacture of wrought-metal tubes and in machinery or apparatus employed for that purpose. (*Communicated by Robert Briggs.*)
ABEL, CHARLES DENTON -	1571	30th May 1870	Apparatus for drawing tube skelps. (*Communicated by Robert Briggs.*)
ABEL, CHARLES DENTON -	1593	1st June 1870	Manufacture of phosphorus. (*Communicated by Edouard Aubertin.*)
ABEL, CHARLES DENTON -	1670	9th June 1870	Preparation of corks for rendering them impermeable and to preserve them from decay. (*Communicated by Auguste de Müller.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
ABEL, CHARLES DENTON -	1756	20th June 1870	A new or improved mode of and apparatus for testing the quality of the malleable metals and alloys. (*Communicated by Gustav Bischof, junior.*)
ABEL, CHARLES DENTON -	2183	5th Aug. 1870	Apparatus or appliances for raising, lowering and transporting objects. (*Communicated by Nicholaus Wonlarlarsky.*)
ABEL, CHARLES DENTON -	2235	11th Aug. 1870	Means and apparatus for working brakes for the rolling stock of railways and tramways, as also for working feed-water pumps in connection therewith. (*Communicated by George Westinghouse, junior.*)
ABEL, CHARLES DENTON -	3114	28th Nov. 1870	An improved construction of combination locks and latches. (*Communicated by Theodore Kromer.*)
ABEL, CHARLES DENTON -	3115	28th Nov. 1870	An improved construction of locks and latches. (*Communicated by Theodore Kromer.*)
ABEL, WILLIAM HENRY -	2323	23rd Aug. 1870	Knitting-machines. (*Patented by William Robert Lake.*)
ABERCROMBIE, JAMES - -	1985	14th July 1870	An improved lubricator.
ABRAHAM, JOHN - - -	453	16th Feb. 1870	Improvements in cartridges for central-fire breech-loading fire-arms, and in percussion caps for the said cartridges.
ABSTERDAM, JOHN - - -	856	23rd Mar. 1870	Improvements in the manufacture of bars, plates and sheets of steel or steel and iron combined, and in the process of welding employed in such manufacture. (*Patented by William Robert Lake.*)
ACKERMANN AND COMPANY, [MEISSNER.	2596	30th Sept. 1870	An improved valve apparatus applicable to vessels for containing petroleum and other volatile oils and spirits. (*Patented by George Henry Funck.*)
ADAIR, JOHN - - - -	2378	31st Aug. 1870	Improvements in the construction of bakers' ovens and in apparatus connected therewith.
ADAMS, ISAAC, junior - -	303	2nd Feb. 1870	Effecting the electro-deposition of nickel.
ADAMS, ISAAC, junior - -	1068	12th April 1870	Treatment of metal surfaces coated by electro-deposition with nickel.
ADAMS, ROBERT - - -	1060	11th April 1870	Spring hinges.
ADAMS, ROBERT - - -	2817	26th Oct. 1870	Construction of horse-shoes. (*Partly communicated by the late Robert Adams.*)
ADAMS, ROBERT (the late) -	2817	26th Oct. 1870	Construction of horse-shoes. (*Patented by Robert Adams and George Henry Greenwood.*)
ADAMS, SAMUEL - - -	1623	4th June 1870	Velocipedes.
ADAMS, THOMAS - - -	1021	7th April 1870	An improved spring clip, file or binder. (*Communicated by Anthony Morris Crowhurst.*)
ADAMS, THOMAS - - -	1022	7th April 1870	Improved means for binding music, pamphlets and other papers. (*Communicated by Anthony Morris Crowhurst.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
ADAMS, WILLIAM - - -	518	22nd Feb. 1870	Improvements in dressing stone and in the machinery or apparatus employed therefor.
ADAMS, WILLIAM BRIDGES -	512	22nd Feb. 1870	Railways, tramways, common roads, and machines and vehicles to run thereon.
ADAMSON, DAVID - - -	2138	1st Aug. 1870	Lubricators. (*Patented by Charles Frederic Trelawny Young.*)
ADAMSON, WILLIAM BENNET	1822	27th June 1870	Improvements in the manufacture of artificial stone and in articles composed thereof.
ADCOCK, WILLIAM HENRY -	29	4th Jan. 1870	Improvements in the construction of steam-boilers and generators, and in the machinery or apparatus employed therein.
ADCOCK, WILLIAM HENRY -	249	27th Jan. 1870	Machinery or apparatus employed for heating water and other liquids.
ADDIS, WILLIAM JUDSON -	90	12th Jan. 1870	Improvements in tramways and in vehicles to be run thereon. (*Patented by Benjamin Joseph Barnard Mills.*)
ADIE, PATRICK - - -	3209	6th Dec. 1870	Lamps.
AGER, NATHAN - - -	3232	9th Dec. 1870	Improved means of signalling on railways.
AGNEW, JAMES - - -	1414	17th May 1870	A new and improved medicinal preparation of cod liver oil, called cod liver oil jelly.
AIKEN, JAMES E. - - -	2951	9th Nov. 1870	Apparatus for effecting and regulating the supply of the deodorizing material in earth closets. (*Patented by William Robert Lake.*)
AIRY, HUBERT - - -	1869	1st July 1870	Improvements in ornamenting paper, woven fabrics and other surfaces, and in apparatus employed therein.
AITKEN, HENRY - - -	1330	10th May 1870	Machinery or apparatus for breaking up, disintegrating or pulverising lumps or clods of soil, in the process of agriculture.
ALBARET, AUGUSTE BERNARD	1165	21st April 1870	Improvements in reaping and mowing machines, and in apparatus for sharpening the cutters of such machines. (*Patented by John Henry Johnson.*)
ALDEN, CHARLES WILLIAM -	1227	28th April 1870	Certain new and useful improvements in pipe wrenches. (*Communicated by Daniel Chapman Stillson.*)
ALDEN, JOHN CARVER - -	1844	28th June 1870	An improved machine for hulling coffee and rice. (*Patented by William Robert Lake.*)
ALEX, MONTAGUE - - -	2947	9th Nov. 1870	Apparatus for lowering and disengaging boats.
ALEXANDER, ALFRED - -	2334	25th Aug. 1870	Water heaters and feeders.
ALISTER, ALEXANDER Mc -	1372	13th May 1870	Hammocks.
ALLAN, WILLIAM - - -	3286	15th Dec. 1870	Surface condensers.
ALLEN, EDWARD ELLIS - -	1475	21st May 1870	Improvements in the construction of tramways and in engines and carriages employed thereon.
ALLEN, HENRY - - -	3097	25th Nov. 1870	Breech-loading fire arms.
ALLEN, JOHN FENWICK - -	2204	9th Aug. 1870	Improvements in the production of certain metallic alloys and in furnaces employed in the process.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
ALLEN, RICHARD, the younger	2199	8th Aug. 1870	Apparatus for the treatment of wheat for the manufacture of flour.
ALLEY, STEPHEN - - -	1589	1st June 1870	Wheels.
ALLIOTT, JAMES BINGHAM -	238	26th Jan. 1870	Construction of axle-boxes for railway, tramway and other similar engines, carriages and trucks, and an improved method of lubricating the axles in such boxes.
ALLISON, WILLIAM CLARE -	2433	8th Sept. 1870	Improvements in pipe joints or couplings, applicable also to couplings for rods and shafting. (*Patented by John Henry Johnson.*)
ALLISTER, CHARLES MC -	1981	13th July 1870	Improvements in carpets and in machinery or apparatus for manufacturing the same. (*Patented by John Henry Johnson.*)
ALLMANN, JULIUS - - -	649	5th March 1870	Machinery for dressing or sifting ground wheat or other grain. (*Communicated by Messieurs Nagel and Kœmp.*)
ALMOND, WILLIAM JOHN -	1081	13th April 1870	Machinery or apparatus for spinning, doubling and throwing silk, cotton and other fibrous substances.
AMBJORN, PIERRE COUNT [SPARRE.	1940	8th July 1870	Breech-loading fire-arms.
AMBLER, AUGUSTIN IREL -	424	12th Feb. 1870	Improvements in generating gas from petroleum and other oleaginous substances, and in the apparatus to be employed therein. (*Patented by Alexander Prince.*)
AMBLER, AUGUSTIN IREL -	2248	12th Aug. 1870	Improvements in generating gas from petroleum and other oleaginous substances, and in the apparatus to be employed therein. (*Patented by Alexander Prince.*)
AMBLER, JAMES - - -	95	12th Jan. 1870	Machinery for twisting woollen, flax, cotton or other fibrous substances.
AMBLER, WILLIAM - - -	1739	17th June 1870	A new or improved self-acting indicator or machine for shewing the times of trains to arrive at and depart from railway stations, points and crossings, for the better prevention of accidents, applicable also for other purposes.
AMBLER, WILLIAM - - -	2292	19th Aug. 1870	Improvements in the manufacture of "spool" tubes and other tubes of paper, and in dyeing or coloring and marking the same, and in machinery or apparatus to be employed therefor.
AMERICAN CIGAR MACHINE [COMPANY.	1438	18th May 1870	Machines for manufacturing cigars. (*Patented by Alexander Melville Clark.*)
AMIES, NATHANIEL JONES -	2012	16th July 1870	Braiding machines.
AMILHAU, VICTOR - - -	1552	27th May 1870	A new and improved label holder and fastener. (*Patented by Henri Adrien Bonneville.*)
ANDERSON, CHARLES FRANCIS	1038	8th April 1870	An improved apparatus to be used in window cleaning and for other similar purposes.
ANDERSON, JOHN HUGH - -	2824	27th Oct. 1870	An improvement in apparatus employed in the manufacture of certain kinds of soap.
ANDERSON, MATTHEW - -	185	21st Jan. 1870	Improvements in discharging grain from ships and elsewhere, and in the apparatus or means employed therefor.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
ANDERSON, MURRAY - -	125	15th Jan. 1870	Improved apparatus for preventing the downward draught in chimnies.
ANDERSON, WILLIAM - -	1256	2nd May 1870	An improved arrangement of gearing for rolling mills.
ANDERSON, WILLIAM LANPHIER.	2088	25th July 1870	Propellers.
ANDERTON, GEORGE - -	3362	23rd Dec. 1870	Looms for weaving.
ANDERTON, JOHN - - -	3362	23rd Dec. 1870	Looms for weaving.
ANDREW, JAMES EDWARD HYDE.	652	5th March 1870	Machinery for twisting, compressing and rolling tobacco, applicable also to rolling, compressing and drawing metals.
ANDREW, THOMAS - - -	528	23rd Feb. 1870	Hand punching machines.
ANDREWS, ALFRED CHRISTMAS	2690	11th Oct. 1870	Certain descriptions of boots and shoes.
ANDREWS, ELISHA WHITTELSEY.	1657	8th June 1870	Printing telegraph apparatus. (*Patented by William Robert Lake.*)
ANDREWS, ELISHA WHITTLESEY.	2578	28th Sept. 1870	Electro-magnets. (*Patented by William Robert Lake.*)
ANDREWS, FRANKLIN WILLIAM.	213	22nd Jan. 1870	Mowing and reaping machines. (*Patented by William Robert Lake.*)
ANDREWS, WILLIAM - -	3073	24th Nov. 1870	Construction of elevators for stacking hay, corn and straw.
ANGELL, ALBERT - - -	887	26th March 1870	Machinery or apparatus for heating and delivering metal bars. (*Communicated by Samuel A. Darrach.*)
ANGUS, WILLIAM - - -	1080	13th April 1870	Mast-head and other hoisting blocks.
ANKETELL, MAXWELL - -	239	26th Jan. 1870	Improvements in the production of manure and fuel from sewage or excremental or fecal matter, and in apparatus for such purpose.
ANKETELL, OLIVER FREDERICK.	239	26th Jan. 1870	Improvements in the production of manure and fuel from sewage or excremental or fecal matter, and in apparatus for such purpose.
ANTHRACITE FUEL MANUFACTURING COMPANY, INCORPORATED.	928	30th March 1870	Improvements in the production of artificial fuel and in apparatus to be employed for such purpose. (*Patented by John Henry Johnson.*)
APPLETON, JOHN - - -	1522	26th May 1870	An improved process and apparatus for preparing and finishing printed paper.
APSEY, JOSEPH - - -	2564	24th Sept. 1870	Chaff-cutting machines.
ARKELL, WILLIAM - - -	747	14th March 1870	Apparatus for raising and lowering heavy bodies.
ARMAN, JEAN LUCIEN - -	1375	13th May 1870	Improvements in the construction of vessels and in the means of propelling the same. (*Patented by William Edward Newton.*)
ARMITAGE, HENRY - - -	2901	3rd Nov. 1870	Manufacture of padded quilts and other articles.
ARMITAGE, JAMES - - -	626	3rd March 1870	Case-hardening.
ARMSTRONG, WILLIAM - -	1931	7th July 1870	Agricultural drills.
ARNOLD, FREDERICK - -	2708	14th Oct. 1870	Pattern post wrappers or envelopes.
ARNOLD, WILLIAM - - -	1533	26th May 1870	Steam-boilers.
ASCOUGH, JESSE - - -	835	21st March 1870	Improvements in the manufacture of candles and in apparatus to be employed therein.
ASCOUGH, JESSE - - -	1913	6th July 1870	Venetian blinds and shutters.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Ascough, Jesse - - -	3288	15th Dec. 1870	Improvements in the manufacture of candles and in apparatus to be employed therein.
Ashley, John Thomas - -	2156	2nd Aug. 1870	Improved machinery for feeding sheets of paper to printing presses and other machines requiring to be similarly fed. (*Patented by Alfred Vincent Newton.*)
Ashwin, John - - -	2068	22nd July 1870	Certain improvements in lockets, which said improvements are applicable to brooches, bracelets, and other articles of jewellery.
Ashworth, Elijah - -	2001	15th July 1870	Cards employed in the carding of cotton and other fibrous materials.
Ashworth, George - -	2001	15th July 1870	Cards employed in the carding of cotton and other fibrous materials.
Ashworth, Henry - -	165	19th Jan. 1870	Apparatus for spinning and doubling cotton and other fibrous substances.
Ashworth, John Jackson -	2598	30th Sept. 1870	Improved apparatus for recording and indicating the distance travelled by wheeled vehicles.
Asker, George - - -	542	24th Feb. 1870	Shirt fronts.
Asquith, Samuel Edward -	2681	10th Oct. 1870	Machinery for spinning wool and other fibrous substances.
Assam, H. M. - - - -	1835	28th June 1870	Construction of pipes for smoking. (*Patented by John Frydendahl Hoffgaard.*)
Aston, Charles Henry -	531	23rd Feb. 1870	Manufacture of non-conducting material for preventing the radiation of heat.
Aston, James Jones - -	539	24th Feb. 1870	Machinery for propelling vessels on the water.
Astrop, William - - -	1537	27th May 1870	Improvements in motive-power and in machinery, apparatus or appliances to be used in connection therewith.
Atkin, Alfred Amos - -	723	11th March 1870	Certain improvements in machinery or appliances for reducing bones, hoofs, horns and other like animal matter, to small particles.
Atkin, Edwin - - -	723	11th March 1870	Certain improvements in machinery or appliances for reducing bones, hoofs, horns and other like animal matter, to small particles.
Atkin, George - - -	723	11th March 1870	Certain improvements in machinery or appliances for reducing bones, hoofs, horns and other like animal matter, to small particles.
Atkin, John Solomon - -	759	15th March 1870	Improvements in the construction of furnaces and in the method of manufacturing malleable and crucible steel and iron.
Atkin, Robert - - -	952	31st March 1870	Improvements in the manufacture of plait and in fastenings therefor, which improvements are applicable for jewellery and other purposes.
Atkins, James - - -	2499	16th Sept. 1870	Apparatus for suspending pictures and other articles.
Atkins, Thomas - - -	642	4th March 1870	Improvemements in apparatus and in combined materials for generating gases for extinguishing fires in mines, vessels, buildings or other places, such apparatus being available for warming buildings or apartments.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
ATKINS, THOMAS - - -	2377	31st Aug. 1870	Improvements in apparatus for economizing the waste heat and gases from furnaces, and in means for generating, collecting and purifying gases, such gases being applicable to various useful purposes.
ATKINS, WILLIAM - - -	387	9th Feb. 1870	Improvements in fire-places for generating steam and in other furnaces where great heat is required.
ATKINSON, HENRY - - -	1210	27th April 1870	Breech-loading needle guns. (*Communicated by Carl Anthony Klintberg.*)
ATKINSON, HENRY - - -	2091	25th July 1870	An improved swing.
ATKINSON, WILLIAM - -	2232	11th Aug. 1870	Looms for weaving.
ATTERBURY, GEORGE - -	1762	21st June 1870	Apparatus for communicating on railway trains.
AUBERTIN, EDOUARD - -	1593	1st June 1870	Manufacture of phosphorus. (*Patented by Charles Denton Abel.*)
AUBERTIN, NICHOLAS ALPHONSE, the younger.	535	23rd Feb. 1870	Apparatus for binding together or filing papers. (*Patented by Alexander Melville Clark.*)
AUDEMAR, GUILLAUME MARIE HENRI.	541	24th Feb. 1870	A new and useful improvement in steam-engines. (*Patented by Henri Adrien Bonneville.*)
AUFFRET, JEAN - - -	739	12th March 1870	An improved holder for cartridges. (*Communicated by Monsieur Pierre Marie Fouque.*)
AULD, DAVID, the younger -	3383	28th Dec. 1870	Improvements in furnace doors and in apparatus connected therewith.
AUSTIN, CHARLES DUDLEY -	467	17th Feb. 1870	Lubricators.
AUSTIN, CHARLES DUDLEY -	938	31st March 1870	Lubricators.
AUSTIN, WILLIAM - - -	813	18th March 1870	Improvements in the manufacture of boxes and cases, and in the modes or means of ornamenting and rendering the same wet-resisting or damp-proof.
AVELING, THOMAS - - -	1037	8th April 1870	Construction of agricultural, road, traction and portable steam-engines, and tramway locomotives.
AVELING, THOMAS - - -	1646	7th June 1870	An improved arrangement of reversing and expansion gear for steam-engines.
AVELING, THOMAS - - -	2627	3rd Oct. 1870	Improvements applicable to the tyres of the running wheels of road locomotives.
AVERY, HENRY GEORGE -	2018	16th July 1870	An improvement in stay busks.
AVERY, WILLIAM - - -	931	30th March 1870	Umbrellas and parasols.
AVERY, WILLIAM - - -	1473	21st May 1870	Cases or receptacles for needles, pins, matches, pens, cards, stamps, photographs, cotton and other similar articles.
AXON, CHARLES - - -	3030	19th Nov. 1870	Appparatus for working "railway signals."
AYRES, JAMES WILLIAM -	1986	14th July 1870	Improving latches, locks, bolts, fastenings in general but more especially the fastenings of doors, and particularly the fastenings of railway carriage doors.
AYRES, JAMES WILLIAM -	3403	31st Dec. 1870	An improved construction of fastening for doors.
AYRES, JARED AUGUSTUS -	563	25th Feb. 1870	Machinery for manufacturing screws. (*Patented by Alfred Vincent Newton.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
AYRES, WILLIAM PORT - -	1870	1st July 1870	Improvements in the construction and arrangement of horticultural and other buildings or erections or structures, and in the means and appliances for heating the same.
AYREY, ROBERT - - -	886	25th March 1870	Apparatus for facilitating the sorting of wool.

B.

BABBITT, BENJAMIN TALBOT -	1783	22nd June 1870	An improved mode or process for obtaining glycerine from soap-makers' spent lyes. (*Patented by William Edward Newton.*)
BABCOCK, - - - - -	1286	5th May 1870	Steam-engines. (*Patented by William Robert Lake.*)
BABLON, VICTOR - - -	1240	30th April 1870	An improved apparatus for regulating the pressure of gas in gas-burners.
BACHET, FRANÇOIS MARIE -	2401	2nd Sept. 1870	An improved process for extracting caustic soda and potash and the carbonates of the same, from their solutions. (*Patented by William Robert Lake.*)
BACON, LIEUTENANT FRANCIS	3242	10th Dec. 1870	Breech-loading fire-arms.
BADARACCO, LOUIS - - -	524	23rd Feb. 1870	An apparatus for the manufacture of the legs of half boots. (*Patented by Henri Adrien Bonneville.*)
BADGER, EDWIN - - -	368	8th Feb. 1870	Velocipedes.
BADIN, JOSEPH - - -	362	8th Feb. 1870	Apparatus for taking soundings at sea. (*Patented by Charles Denton Abel.*)
BAERLEIN, SIGMUND - -	1442	19th May 1870	Improvements in doubling cotton or other fibrous substances, and in the machinery or apparatus employed therefor.
BAGGS, ISHAM - - -	35	5th Jan. 1870	Purifying coal gas.
BAGGS, ISHAM - - -	485	18th Feb. 1870	Manufacture of the carbonates of ammonia.
BAGGS, ISHAM - - -	1006	6th April 1870	Making the carbonates of ammonia.
BAGGS, ISHAM - - -	1111	16th April 1870	Making white lead.
BAGGS, ISHAM - - -	2383	1st Sept. 1870	Steam and gas engines.
BAGGS, ISHAM - - -	2938	8th Nov. 1870	Smelting or reducing metals from their ores.
BAILEY, ISAAC - - -	2538	22nd Sept. 1870	Wool combing machines.
BAILEY, JOSEPH - - -	950	31st March 1870	A new or improved apparatus for registering or indicating figures or numbers, applicable to seats of chairs, weighing-machines, and other useful purposes.
BAILEY, JOSIAH - - -	2929	7th Nov. 1870	Construction of lifting apparatus.
BAILEY, MICHAEL - - -	1081	13th April 1870	Machinery or apparatus for spinning, doubling and throwing silk, cotton and other fibrous substances.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BAILEY, RICHARD - - -	2075	23rd July 1870	Ventilating and heating rooms and other places, and apparatus therefor.
BAILEY, WILLIAM - - -	895	26th March 1870	Brewing fermented liquors.
BAILEY, WILLIAM HENRY -	634	3rd March 1870	Boiler fittings.
BAILEY, WILLIAM HENRY -	2354	27th Aug. 1870	Apparatus for producing inflammable gas from mineral and other oils, parts of which are applicable for heating purposes.
BAILLIE, ROBERT - - -	1837	28th June 1870	Construction of ships.
BAIN, ALEXANDER WILLIAM -	517	22nd Feb. 1870	Producing end and cover papers for books, in order to retain brilliancy of surface.
BAIN, JAMES - - - -	2710	14th Oct. 1870	Double-acting pumps.
BAINES, HUGH - - -	2009	15th July 1870	Improvements in repairing worn or damaged rails of permanent way, and in the combination and arrangement of machinery or apparatus employed therein.
BAIRD, JAMES - - -	1452	19th May 1870	Treating vegetable oils.
BAIRD, ROBERT - - -	3297	17th Dec. 1870	Punching and shearing apparatus.
BAKER, ALFRED WILLIAM [THEOPHILUS.	310	2nd Feb. 1870	Nails for coffins, articles of furniture and other uses.
BAKER, GEORGE - - -	138	17th Jan. 1870	Machinery for cutting splints for matches and other purposes.
BAKER, GEORGE - - -	1036	8th April 1870	Machinery used in the manufacture of tacks and other similar nails.
BAKER, HAYDN MOZART -	2065	21st July 1870	Production of sulphuric and hydrochloric acids, of carbonates of potash and soda, and also of chlorine. (*Patented by John Henry Johnson.*)
BAKER, HAYDN MOZART -	2866	31st Oct. 1870	Manufacture of acids and salts. (*Patented by John Henry Johnson.*)
BAKER, JAMES WOOD - -	983	4th April 1870	Construction of kilns.
BAKER, JOHN - - - -	3066	23rd Nov. 1870	Combined winnowing, screening and blowing machines.
BAKER, ST. THOMAS - -	2053	20th July 1870	Improvements in pigeon traps from which pigeons are shot, and in the apparatus for and mode of "letting off" the same, by which means secrecy is insured as to which trap is opened.
BAKER, SILAS PAUL - -	903	28th March 1870	Apparatus for locking and unlocking gates on railways.
BAKER, THOMAS - - -	2880	1st Nov. 1870	Boots and shoes.
BAKER SEWING - MACHINE [COMPANY (GROVER AND).	283	31st Jan. 1870	Construction of sewing-machines. (*Patented by John Henry Johnson.*)
BALBACH, EDWARD, junior -	3175	3rd Dec. 1870	An improved process of separating precious metals from lead and zinc, and apparatus employed therefor. (*Patented by George Haseltine.*)
BALDOCK, GEORGE - - -	2464	13th Sept. 1870	Manufacture of casting blocks and printing blocks used for heliographic and other printing.
BALDWIN, FREDERICK - -	1987	14th July 1870	Machinery or apparatus for reducing wood, metal or other hard material, to fixed patterns. (*Patented by Giovanni Sconcia.*)
BALDWIN, HENRY, junior -	1644	7th June 1870	Treatment of slag and other vitreous material. (*Patented by George Tomlinson Bousfield.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BALE, JOHN - - - -	3341	21st Dec. 1870	Apparatus for heating purposes, principally adapted for heating conservatories, halls, churches, rooms, offices and other structures and places.
BALL, HOSEA - - - -	2052	20th July 1870	Ovens. (*Patented by Benjamin Joseph Barnard Mills.*)
BALLANTYNE, ANDREW - -	2869	1st Nov. 1870	Modes, means or apparatus for or connected with the manufacture of malleable iron or steel tubes and like structures.
BALLARD, JOHN ARCHIBALD -	382	9th Feb. 1870	Improved means or apparatus for controlling and guiding the movements of torpedo boats, rams and other similar vessels. (*Patented by Thomas James Smith.*)
BALLARD, WILLIAM WILMOT	130	15th Jan. 1870	Improvements in wooden pavements and in cutting the blocks therefor. (*Patented by Alexander Melville Clark.*)
BALLARD, WILLIAM WILMOT	2214	9th Aug. 1870	An improvement in wood pavement. (*Patented by Alexander Melville Clark.*)
BALLS, THOMAS PATTERSON -	154	19th Jan. 1870	Apparatus for molding and compressing substances for artificial fuel.
BALMAIN, WILLIAM HENRY -	97	12th Jan. 1870	Improved means for conveying and storing vitriol.
BALMAIN WILLIAM HENRY -	2284	18th Aug. 1870	Manufacture of glass.
BALONCHARD, CHARLES THÉODORE.	472	17th Feb. 1870	An improved process for cleaning, purifying, improving and preserving grain and seed.
BAMFORD, JOSEPH - - -	1264	3rd May 1870	Improved means of communicating between the passengers, guard and engine driver upon railways.
BAMLETT, ADAM CARLISLE -	1765	21st June 1870	Reaping and mowing machines.
BAMLETT, ADAM CARLISLE -	2734	17th Oct. 1870	Reaping and mowing machines.
BANCROFT, WALTER - -	2766	20th Oct. 1870	Certain improvements in the manufacture of ornamental metallic chains and in certain appliances for producing the same.
BANG, IVAR AXEL FERDINAND	1142	19th April 1870	Manufacture of superphosphate of lime. (*Patented by Henry Woodcroft Hammond.*)
BANKS, JOHN - - - -	2215	9th Aug. 1870	Window sash and casement fasteners.
BANKS, JOHN - - - -	2428	7th Sept. 1870	Window sash and casement fasteners.
BANKS, JOHN HENRY - -	1400	16th May 1870	Construction and manufacture of school furniture and other similar articles.
BANKS, JOHN HENRY - -	2304	20th Aug. 1870	Production of raised pattern blocks applicable for surface printing and for other purposes.
BANKS, THOMAS - - -	1322	9th May 1870	An improved needle wrapper.
BANNEHR, JAMES - - -	456	16th Feb. 1870	Manufacture of artificial fuel.
BANNEHR, THOMAS - - -	32	4th Jan. 1870	Propelling carriages and other machinery.
BANTON, RICHARD - - -	3068	23rd Nov. 1870	Certain improvements in castors for furniture and other purposes.
BAPTY, JOHN - - - -	392	10th Feb. 1870	Machinery or apparatus for dressing warps of wool or other fibrous substances and twine.
BARBOUR, NELSON HORATIO -	2211	9th Aug. 1870	An improved steam generator. (*Patented by William Armand Gilbee.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Barbour, Robert - - -	3061	23rd Nov. 1870	Hydro-carbon lighting apparatus chiefly designed for locomotives and signals. (*Patented by William Robert Lake.*)
Barbour, Robert - - -	3062	23rd Nov. 1870	Gas regulating apparatus. (*Patented by William Robert Lake.*)
Barbour, Thomas - - -	1335	10th May 1870	Apparatus or machinery for making gas from liquid hydrocarbons, for illuminating purposes. (*Patented by William Robert Lake.*)
Barbour, Thomas - - -	3061	23rd Nov. 1870	Hydro-carbon lighting apparatus chiefly designed for locomotives and signals. (*Patented by William Robert Lake.*)
Barbour, Thomas - - -	3062	23rd Nov. 1870	Gas regulating apparatus. (*Patented by William Robert Lake.*)
Barclay, Andrew - - -	1790	23rd June 1870	Improvements in smelting iron and other ores, and in the apparatus employed therefor.
Barclay, Andrew - -	2551	23rd Sept. 1870	Blast furnaces.
Bardy, Charles - - -	376	9th Feb. 1870	Preparing and obtaining colouring matters.
Bardy, Charles - - -	1172	22nd April 1870	An improved mode of preparing certain organic bases for producing colouring matters.
Barfield, Wiley Blount -	2890	2nd Nov. 1870	Apparatus for producing and applying motive-power. (*Patented by Alexander Melville Clark.*)
Barford, John Phillips -	1953	9th July 1870	Carriage jacks and other lifting jacks.
Barker, Charles Mathew -	1998	14th July 1870	Steam generators.
Barker, Edmund - - -	3072	24th Nov. 1870	Lockets and other articles for the reception of portraits, inscriptions or devices.
Barker, George - - -	830	21st March 1870	Improved modes, means and apparatus for and connected with the copying of letters and other documents.
Barker, Robert - - -	320	3rd Feb. 1870	Spring bed bottoms. (*Patented by William Robert Lake.*)
Barker, Robert Edward -	2237	11th Aug. 1870	An improved instrument adapted for taking bearings and for making rapid surveys with approximate accuracy.
Barker, Stephen Albro -	320	3rd Feb. 1870	Spring bed bottoms. (*Patented by William Robert Lake.*)
Barker, William - - -	751	15th March 1870	Machinery for holeing, cutting or excavating coals or other minerals.
Barker, William Robert -	1183	23rd April 1870	Improvements in the means of and apparatus for effecting fumigation, vaporization and inhalation, applicable to medicinal and sanatory purposes.
Barling, Thomas - - -	2176	4th Aug. 1870	Burners for burning gas and volatile combustible liquids.
Barlow, Alexander - -	968	2nd April 1870	Machinery or apparatus to be employed in preparing cotton or other fibrous substances for spinning.
Barlow, Alfred - - -	838	21st March 1870	Improvements in jacquard mechanism for weaving and other purposes, parts of which improvements are also applicable for playing musical instruments.
Barlow, Alfred - - -	1260	3rd May 1870	Improvements in textile fabrics for book covers and in weaving the same.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Barlow, Henry Bernoulli -	23	4th Jan. 1870	Certain improvements in machines for manufacturing fishing and other nets. (*Communicated by Messieurs Coevoet and Dawson.*)
Barlow, Henry Bernoulli -	145	18th Jan. 1870	Machines for sizing yarn. (*Communicated by William Lancaster.*)
Barlow, Henry Bernoulli -	437	15th Feb. 1870	Construction of caskets or boxes for jewels and other articles. (*Communicated by Jules Mathieu.*)
Barlow, Henry Bernoulli -	438	15th Feb. 1870	Arrangement and construction of cases for bottles, glasses or drinking cups and other articles. (*Communicated by Jules Mathieu.*)
Barlow, Henry Bernoulli -	1130	19th April 1870	Certain improvements in door locks and latches. (*Communicated by Edward Buss.*)
Barlow, Henry Bernoulli -	3177	3rd Dec. 1870	Embroidering machines. (*Communicated by Henry Rieter and John Wekrli.*)
Barnard, Bradly - -	482	18th Feb. 1870	Infants' beds or bassinettes.
Barnby, Francis James -	223	25th Jan. 1870	Floor cramps.
Barnby, Francis James -	2146	1st Aug. 1870	Improvements in turn-buckles, and in securing door knobs or handles and turn-buckles to their spindles.
Barnes, Lawrence - -	2899	3rd Nov. 1870	Improved machinery for pointing nails. (*Patented by William Edward Newton.*)
Barnett, Joseph James -	2446	9th Sept. 1870	Improvements in the manufacture of twilled fabrics, and in the application of such fabrics to the manufacture of various articles of wearing-apparel and for upholstery purposes.
Baron, John - - - - -	2326	24th Aug. 1870	Certain improvements in machinery or apparatus to be employed for manufacturing paper bags.
Baron, William - - - -	2326	24th Aug. 1870	Certain improvements in machinery or apparatus to be employed for manufacturing paper bags.
Barrabé, Eugène - - -	1381	14th May 1870	Apparatus for dressing, glazing and pearling rice, wheat, barley or other grain. (*Patented by Jean Jules Hignette.*)
Barrett, Michael, M.D. -	1394	16th May 1870	A process for the recovery, purification and revivification of sulphuric acid spent and deteriorated in the refining of petroleum, coal and shale oils. (*Patented by George Willoughby Hemans.*)
Barron, Edmond Charles -	1588	31st May 1870	Improvements in the manufacture of soles and heels for boots and shoes, and in apparatus employed in such manufacture. (*Communicated by Laurent Hurtault.*)
Barron, Edmund Charles -	2533	21st Sept. 1870	Machinery for skiving and cutting leather for the manufacture of boots and shoes. (*Communicated by Champion Brown and William Childs.*)
Barron, William John -	1588	31st May 1870	Improvements in the manufacture of soles and heels for boots and shoes, and in apparatus employed in such manufacture. (*Communicated by Laurent Hurtault.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BARRON, WILLIAM JOHN -	2533	21st Sept. 1870	Machinery for skiving and cutting leather for the manufacture of boots and shoes. (*Communicated by Champion Brown and William Childs.*)
BARROW, FREDERICK AUGUS-[TUS.	208	22nd Jan. 1870	Improvements in apparatus for evaporating and concentrating liquids, and in recovering reagents from oil-refiners, and other bye-products.
BARROW, FREDERICK AUGUS-[TUS.	793	17th March 1870	Improvements in apparatus for evaporating, concentrating and distilling liquids, and in recovering reagents from oil-refiners' and other bye-products.
BARROW, JOHN - - -	1122	18th April 1870	Treatment of napthalene and of hydrocarbon bodies containing napthalene.
BARTHOLOMEW, CHARLES -	487	18th Feb. 1870	Apparatus to be used in getting coal.
BARTHOLOMEW, CHARLES -	2048	20th July 1870	Improvements in treating sewage and in manufacturing manure.
BARTLETT, WILLIAM ERSKINE	2452	10th Sept. 1870	Construction of elastic tyres for carriage wheels.
BARTON, CHARLES EMERSON -	1520	26th May 1870	An improved machine for breaking ice for the preservation of fish and other purposes.
BARTON, JOHN - - -	2621	1st Oct. 1870	Apparatus for cutting sugar canes and other substances.
BARTON, JOHN - - -	3015	17th Nov. 1870	Centrifugal machines.
BARTON, SAMUEL, the younger	1132	19th April 1870	An improved distributing apparatus to be applied to garden hose, syringes and for other like purposes.
BARWELL, WILLIAM - -	1465	20th May 1870	Securing the nuts of the screw bolts used in fish jointing the rails of railways.
BASS, JOHN HOLMES - -	71	8th Jan. 1870	Teapots and other vessels intended to contain hot liquids.
BASS, JOHN HOLMES - -	3003	16th Nov. 1870	Vessels for making coffee, tea and other infusions.
BASSETT, JOHN A. - - -	401	10th Feb. 1870	Looms for weaving. (*Patented by William Robert Lake.*)
BASSETT, ROYAL MOULTON -	544	24th Feb. 1870	Machinery for manufacturing nails. (*Patented by Edward Thomas Hughes.*)
BASSETT, THEODORE SHELDON	544	24th Feb. 1870	Machinery for manufacturing nails. (*Patented by Edward Thomas Hughes.*)
BATCHELOR, VALENTINE -	2493	15th Sept. 1870	Improving the present system of producing a uniform action of reclining chairs and couches.
BATCHELOR, WILLIAM - -	1156	20th April 1870	Fire-bars.
BATE, JOHN - - - -	2807	25th Oct. 1870	Manufacture of machines for mincing and cutting animal and vegetable substances.
BATEMAN, SAMUEL - -	866	24th March 1870	An apparatus for measuring card filleting whilst in the process of making.
BATES, ISAAC - - - -	1772	22nd June 1870	Improvements in the bridges of the furnaces of steam-boilers or generators, or of other furnaces.
BATES, JOHN - - - -	412	11th Feb. 1870	Machinery for filing.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Battersby, William Augus-[tus.	2863	31st Oct. 1870	An improved silicious compound applicable for the manufacture of pipes, tiles, bricks and other articles for buildings, also for paths, floors, roofs and other analogous purposes. (*Patented by William Edward Newton.*)
Battimelli, Giovanni - -	471	17th Feb. 1870	Lamps for burning hydro-carbons, applicable for railway and other carriages.
Battinson, George - -	1238	30th April 1870	Machinery to be employed for combing wool, silk, flax and other fibres.
Battinson, Isaac - -	1238	30th April 1870	Machinery to be employed for combing wool, silk, flax and other fibres.
Batty, George - - -	2728	17th Oct. 1870	Preparation of concentrated food.
Baudit, Marc André - -	1943	8th July 1870	Buckles for fastening dress belts and other like articles. (*Patented by William Robert Lake.*)
Baudot, Ernest - - -	1927	7th July 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdock.*)
Baudot, Ernest - - -	3108	26th Nov. 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdock.*)
Baugh, Benjamin - -	1077	12th April 1870	Attaching door and other knobs to their spindles.
Baumann, Alexander -	873	25th March 1870	Steam-engines.
Bay, Charles William [Spruyt De.	2639	5th Oct. 1870	A new moveable fort.
Bayes, Thomas Peek - -	2094	25th July 1870	Washing-machines. (*Communicated by Henry Greaves.*)
Bayley, John - - -	494	19th Feb. 1870	Machinery for preparing, spinning, twisting and doubling cotton and other fibrous materials.
Baylis, Charles - - -	385	9th Feb. 1870	Improved means of preventing impersonation.
Bayliss, Moses - - -	1188	23rd April 1870	Certain improvements in the manufacture of spikes.
Baynes, Frederick James -	2080	23rd July 1870	An improved carving fork.
Bazan, Felix - - -	1777	22nd June 1870	An internal spring coupling and brake for transmitting, stopping or regulating motion.
Bazin, Louis Raoul - -	1737	17th June 1870	Improvements applicable to looms for weaving. (*Patented by Henry Edward Newton.*)
Beamish, William - -	1574	30th May 1870	Constructing a cylindrical iron kerb for the reception, repairing and maintaining telegraph wires.
Beard, Charles - - -	1106	14th April 1870	Construction of partitions or walls.
Beard, Eleazar Judson -	1255	2nd May 1870	Buckles or bale ties. (*Patented by Alfred Vincent Newton.*)
Beardmore, William -	3085	24th Nov. 1870	Certain furnaces used in the manufacture of iron.
Beare, Henry - - -	1254	2nd May 1870	A new or improved apparatus for pulverising and distributing guano and artificial manure, applicable also to seed and other drills.
Beattie, Robert Purvis -	1157	20th April 1870	An improved construction of valve cock.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Beaudet, Louis André -	716	10th March 1870	Tanning. (*Patented by Michael Henry.*)
Beck, John - - - -	433	14th Feb. 1870	Improvements in cocks and valves and in packing for the same.
Becker, — - - - -	3224	8th Dec. 1870	Construction of boilers for locomotive engines. (*Patented by John Clayton Mewburn.*)
Beckett, John - - -	768	15th March 1870	An improved buckle or fastening.
Bell, Alexander Carlyle -	3372	24th Dec. 1870	A new cloak for military and other purposes, which can also be used as a sheet or covering.
Bell, Andrew - - -	3199	6th Dec. 1870	Improvements in horse-shoes and in fittings connected therewith.
Bell, Andrew - - -	3365	24th Dec. 1870	Improved means or apparatus for economising fuel.
Bell, George - - -	3380	27th Dec. 1870	Candlesticks and lamps.
Bell, Thomas - - -	575	26th Feb. 1870	Apparatus for feeding thrashing machines.
Bell, Thomas - - -	1167	21st April 1870	Improvements in treating calcined pyrites, for the better utilization thereof in the processes of manufacturing pig and bar iron, and in the means or apparatus adopted for such treating.
Bell, Thomas - - -	2439	9th Sept. 1870	Power looms.
Belmont, Henry - - -	1263	3rd May 1870	Machinery or apparatus for tilling, ploughing, harrowing, digging and cultivating land.
Belmont, Henry - - -	2998	16th Nov. 1870	Machinery for tilling and cultivating the soil.
Benedictus, Monsieur -	2843	28th Oct. 1870	Umbrellas, parasols and sunshades. (*Patented by Hermann Bollack.*)
Bengough, John Isaac -	1350	11th May 1870	Preservation of meats.
Bengough, John Isaac -	2577	28th Sept. 1870	An improved process for preserving animal and vegetable substances in air-tight vessels.
Bennett, Alfred - - -	2835	27th Oct. 1870	Improvements in mechanism for giving a slow rotatory motion to the bottoms of ovens, to frames or supports for exhibiting articles in shop windows and for other like purposes, and in frames or supports to be actuated by the said mechanism.
Bennett, John Emil - -	3135	30th Nov. 1870	Construction of furnaces for preventing or lessening smoke and effecting more perfect combustion of the fuel employed therein.
Bennett, Samuel - - -	2573	27th Sept. 1870	Improvements in and apparatus for supplying hot water for general use in dwelling-houses.
Bennett, Silvester - -	1890	4th July 1870	Improved apparatus for the production of ice. (*Patented by William Edward Newton.*)
Bennett, Solomon - -	2231	11th Aug. 1870	Improvements in the preparation of worts whereby an improved yield is obtained, with a residue suitable to be employed in the manufacture of paper, also in the employment of such residue, whether obtained in the preparation of worts or from other sources, in the manufacture of paper.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Benson, Martin - - -	1413	17th May 1870	Steam pumping or blowing engines. (*Communicated by James Riley Maxwell and Ezra Cope.*)
Benson, Martin - - -	1485	23rd May 1870	Mode of supplying lamps or lanterns with atmospheric air for supporting their illuminating flames. (*Communicated by John Henry Irwin.*)
Bentley, Daniel - -	1633	6th June 1870	Rag engines.
Bentley, Thomas - - -	217	24th Jan. 1870	Improved apparatus for decanting liquids.
Bentley, William Sleight	2024	18th July 1870	Apparatus for economising and purifying gas.
Bérard, Aristide Balthazard.	1712	15th June 1870	Improvements in the manufacture and fusion of cast iron, and in the apparatus connected therewith.
Berdan, General Hiram -	2675	10th Oct. 1870	Improvements in breech-loading fire-arms and in metallic cartridges for the same. (*Patented by George Coburn Wilson.*)
Berdan, General Hiram -	3019	18th Nov. 1870	Metallic cartridge cases. (*Patented by George Coburn Wilson.*)
Berendorf, Joseph - -	2073	22nd July 1870	Improved machinery or apparatus for tawing or dressing skins. (*Patented by William Edward Newton.*)
Bergh, Julius Arnoldus Ryke Van Den.	1470	21st May 1870	An improved apparatus for saving property and transmitting messages in cases of disaster at sea.
Bergmann, Emil - - -	2111	27th July 1870	Manufacturing carbonate of soda. (*Patented by Patrick Cockburn Don.*)
Bergue, Charles De - -	1928	7th July 1870	Machinery for punching metal.
Berlioz, Auguste Prosper -	474	17th Feb. 1870	Apparatus for lighting applicable also for signalling purposes. (*Patented by John Henry Johnson.*)
Bernard, Julian - - -	1527	26th May 1870	Improvements in blast and other furnaces, and in extracting metals from their ores and from metallurgical products, in separating and refining such metals, and in the means and apparatus employed for such purposes.
Bernard, Julian - - -	1536	26th May 1870	Improvements in the treatment and recovery of metallurgical products, and in the means and apparatus employed therein.
Bernhardt, George - -	1182	23rd April 1870	Improvements in or applicable to machines for spinning and doubling fibrous materials.
Berry, William - - -	2328	24th Aug. 1870	An improved construction of mud cart and water cart combined.
Berry, William Henry -	200	22nd Jan. 1870	Water or other liquid or fluid meter.
Berryman, Robert - -	744	14th March 1870	Improved apparatus for indicating a deficiency of water in steam-boilers, and for regulating the supply of water thereto. (*Patented by William Robert Lake.*)
Bert, Bernard - - -	1316	9th May 1870	An improved apparatus for the breeding of oysters.
Bertram, Leopold Beral -	2665	8th Oct. 1870	An improved apparatus for attaching stamps or labels to letters, envelopes and other documents, and for separating and embossing stamps and labels.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BESSEMER, HENRY - - -	553	24th Feb. 1870	Improvements in the construction of steam vessels and sailing vessels, and in apparatus employed for the better accommodation of passengers on board such vessels, and for lessening or preventing sea-sickness.
BESSEMER, HENRY - - -	1559	27th May 1870	Improvements in the construction of steam ships and other vessels employed for the conveyance of passengers, and in the means and apparatus employed to prevent or lessen sea-sickness on board such vessels.
BESSEMER, HENRY - - -	1580	30th May 1870	Improvements in the construction of steam ships employed for the conveyance of passengers, luggage and cattle, and in the apparatus employed for such purpose on board ships, and for lessening or preventing sea-sickness.
BESSEMER, HENRY - - -	1742	17th June 1870	Improvements in steam vessels and sailing vessels, and in the construction and mode of working machinery or apparatus employed on board such vessels, for the purpose of lessening the motion of certain parts thereof, and for lessening or preventing sea-sickness.
BESSEMER, HENRY - - -	3130	29th Nov. 1870	Improvements in the construction of ordnance and in the mode of propelling projectiles, and also in the cartridges and ammunition used for that purpose.
BEST, SEALY JAMES - -	3341	21st Dec. 1870	Apparatus for heating purposes, principally adapted for heating conservatories, halls, churches, rooms, offices and other structures and places.
BESTWICK, THOMAS - -	344	7th Feb. 1870	Machinery for covering telegraph wires.
BESTWICK, WILLIAM - -	344	7th Feb. 1870	Machinery for covering telegraph wires.
BETHELL, HENRY SLINGSBY -	3125	29th Nov. 1870	An improvement in the manufacture of pavements, waterproof linings and coverings.
BETINCOURT, EDWARD - -	1494	24th May 1870	Hardening, preserving and facing stone, chalk, brick and other building materials.
BEVITT, WILLIAM - - -	384	9th Feb. 1870	Brakes for carriages.
BEWLEY, JAMES LLOYD - -	1823	27th June 1870	Improvements in treating and distilling petroleum, and in apparatus employed therein. (*Patented by Robert Kell.*)
BEWLEY, RICHARD, junior -	2894	3rd Nov. 1870	Machinery for grinding, particularly applicable for grinding gold and other expensive colors used by potters and others.
BIBBY, JAMES - - -	2326	24th Aug. 1870	Certain improvements in machinery or apparatus to be employed for manufacturing paper bags.
BIBBY, THOMAS - - -	2326	24th Aug. 1870	Certain improvements in machinery or apparatus to be employed for manufacturing paper bags.
BIBBY, WALTER - - -	2289	19th Aug. 1870	Mules for spinning.
BICKLEY, THOMAS ALFRED -	3216	7th Dec. 1870	Metallic bars or clips to be used for roofing and glazing purposes.
BIERTUMPFEL, HENRY AUGUSTUS.	1395	16th May 1870	Machinery for shaping wood and other materials.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BIGELOW, ERASTUS BRIGHAM	1437	18th May 1870	Looms for weaving. (*Patented by George Tomlinson Bousfield.*)
BIGELOW, ERASTUS BRIGHAM	1955	11th July 1870	Warp tension and let-off mechanism for power looms. (*Patented by George Tomlinson Bousfield.*)
BIGELOW, HORACE HOLLEY -	1709	15th June 1870	Machinery or apparatus for pressing and forming heels for boots and shoes and for other like purposes. (*Patented by John Henry Johnson.*)
BIGELOW, HORACE HOLLEY -	2535	21st Sept. 1870	Machines for heeling boot and shoes.
BIGELOW, HORACE HOLLEY -	2536	21st Sept. 1870	Heels for boots and shoes.
BIGG, HENRY HEATHER -	3119	28th Nov. 1870	Construction of mitrailleurs or machine guns.
BIGGIN, THOMAS - - -	902	28th March 1870	Manufacture of metal bushes for casks or barrels.
BIGOT, ROMAIN FRANÇOIS -	1160	21st April 1870	An improved apparatus combining the functions of a bung and of a self-acting vent peg.
BIGOT, ROMAIN FRANÇOIS -	2751	19th Oct. 1870	An improved apparatus combining the functions of a bung and of a self-acting vent peg. (*Patented by William Edward Gedge.*)
BILBROUGH, GEORGE - -	3277	14th Dec. 1870	Improvements in wardrobe and such like latches and parts connected therewith.
BILLINGS, GEORGE WHITFIELD	1724	16th June 1870	Improvements in steel washers and in apparatus employed for forming the same. (*Patented by William Robert Lake.*)
BILLWILLER, JOHANN ULRICH	489	18th Feb. 1870	Embroidering machinery. (*Patented by James Lee Norton.*)
BINGHAM, JOHN EDWARD -	2580	28th Sept. 1870	Improvements in the electro-deposition of tin, which improvements are applicable to the prevention of the oxidization or tarnishing of silver surfaces and as a coating for other metals.
BIRCH, WILLIAM - - -	2610	1st Oct. 1870	Improved self-acting machinery for opening, smoothing, spreading and guiding calico, cloth and other fabrics, for the use of bleachers, dyers, calico printers and others.
BIRKIN, RICHARD, junior -	1201	26th April 1870	Manufacture of ornamented net or lace.
BIRNBAUM, BERNARD - -	1417	17th May 1870	An improved fastening for leggings, gaiters, stays and corsets.
BIRTILL, SAMUEL BARTLE-[MORE.	3291	16th Dec. 1870	An improvement in the manufacture of felted cloth.
BISCHOF, GUSTAV, junior -	1756	20th June 1870	A new or improved mode of and apparatus for testing the quality of the malleable metals and alloys. (*Patented by Charles Denton Abel.*)
BISCHOF, GUSTAV, junior -	2516	19th Sept. 1870	Means employed for the purification of water.
BISHOP, CHARLES - - -	3166	2nd Dec. 1870	Furnaces and apparatus to be used in the manufacture of glass.
BISHOP, CHARLES KENWRICK [KENELM.	3279	14th Dec. 1870	Organs.
BISHOP, GEORGE C. - -	2223	11th Aug. 1870	Pumps for raising and forcing liquids. (*Patented by Edmund William Pyle Taunton.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BISHOP, SAMUEL - - -	3166	2nd Dec. 1870	Furnaces and apparatus to be used in the manufacture of glass.
BLACK, JOSEPH CRICHTON -	3336	21st Dec. 1870	Slide valves for steam and other engines.
BLACKBEE, ROBERT - -	1700	14th June 1870	Construction of surgical instruments known as "specula."
BLACKBURN, BEWICKE - -	446	15th Feb. 1870	Improvements in locomotion and in the apparatus to be employed therein.
BLACKBURN, BEWICKE - -	2796	24th Oct. 1870	Inkstands.
BLACKWOOD, THOMAS - -	559	25th Feb. 1870	Compound marine engines.
BLAIR, THOMAS SCHOEN-[BERGER.	2786	22nd Oct. 1870	Improvements in spiral pumps and in apparatus employed in connection therewith.
BLAIR, THOMAS SCHOEN-[BERGER.	2857	31st Oct. 1870	Spiral pumps.
BLAKE, JAMES PARTRIDGE -	1454	19th May 1870	Improvements in rolling metallic rods or wire and in machinery employed for that purpose.
BLAKE, WILLIAM THOMAS -	1305	7th May 1870	Improving the sanitary construction of tobacco pipes, arranged for the purpose of entirely preventing the nicotine juice from entering the mouth of the smoker, and to form means of egress for such juice.
BLAKEBOROUGH, ROBERT -	704	10th March 1870	Improvements in or applicable to steam-boiler and other furnaces, for promoting the consumption of smoke.
BLAKEY, BENJAMIN - -	2735	18th Oct. 1870	Looms for weaving.
BLAKEY, JOHN - - -	3048	21st Nov. 1870	Self-acting machinery for making and finishing boots and shoes.
BLAKEY, JOHN - - -	3235	9th Dec. 1870	Improved means and apparatus for utilizing small pieces of leather in the manufacture of boots and shoes.
BLAMIRES, THOMAS HOWARD	2441	9th Sept. 1870	Improvements in or applicable to machinery or apparatus for carding wool or other fibrous substances.
BLANCHARD, FRANCIS BROWN	549	24th Feb. 1870	Steam-boilers and engines. (*Patented by William Edward Newton.*)
BLANDY, HENRY - - -	1546	27th May 1870	Construction and arrangement of vessels employed in the manufacture of nitrous oxide gas and for other similar purposes.
BLANDY, HENRY - - -	1886	4th July 1870	Improvements whereby important documents, letters, invoices and paid bills may be preserved and be readily referred to.
BLAU, GEORGES - - -	1819	27th June 1870	An improved process of drilling and cutting plane surfaces in the manufacture of crystal glass or metal ware, and an improved lathe for this purpose. (*Patented by William Edward Gedge.*)
BLED, ACHILLE DU - -	739	12th March 1870	An improved holder for cartridges. (*Communicated by Monsieur Pierre Marie Fouque.*)
BLENDE, HENRI CORNEILLE DE	2259	13th Aug. 1870	Preparation of lubricating oil.
BLINKHORN, WILLIAM JOHN -	1222	28th April 1870	An improved spool for lock-stitch sewing-machines.
BLONDEL, PIERRE ANDRÉ -	2015	16th July 1870	An improved lamp for burning mineral oils and essences.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Bloodgood, Francis - -	605	1st March 1870	Railway carriage wheels. (*Patented by Alexander Melville Clark.*)
Bluemel, Charles August -	1736	17th June 1870	Improvements in walking-sticks and in sticks or handles for umbrellas, parasols and sunshades, and in certain other portable articles mainly composed of wood or cane.
Blyth, Eduardo E. - -	2541	22nd Sept. 1870	Sharpening and polishing sewing-machine needles. (*Patented by David Monroe Childs.*)
Blyth, Francis Mollett -	1282	4th May 1870	An improvement in harvesting machines.
Blythe, Edward - - -	1003	6th April 1870	Sash fasteners. (*Patented by David Monroe Childs.*)
Blythe, Eduardo - - -	2705	13th Oct. 1870	Improvements in the mode of training hops, the sockets for the poles or posts of same and other posts, applicable also for the boring for water. (*Patented by David Monroe Childs.*)
Blythe, John Bennington -	1041	8th April 1870	Improvements in means and apparatus for seasoning, injecting and preserving wood, part of which improvements is applicable for treating canvass, cordage and other substances, to render them impervious to to decay.
Boardman, Sydney - -	3198	6th Dec. 1870	Lubricators.
Bobrownicki, Alexandre -	580	26th Feb. 1870	An improved process for converting human excrement into fuel and manure.
Bodmer, John James - -	2373	30th Aug. 1870	Manufacture of iron and steel and apparatus used therein.
Boës, Joseph - - -	618	2nd March 1870	Enamels for pottery, earthenware and crockery. (*Patented by John Henry Johnson.*)
Bogaerts, Constant - -	2520	19th Sept. 1870	Improvements in obtaining grease and oil from soapy and greasy water, and in apparatus employed for this purpose. (*Communicated by Alfred Wilgot.*)
Boggett, William - -	2494	16th Sept. 1870	Machinery for cutting and shaping slate.
Boggett, William - -	3275	14th Dec. 1870	Preparing and applying slate to useful and ornamental purposes.
Boileau, Lestock Francis -	3034	19th Nov. 1870	Improvements in fan punkahs and in apparatus in connection therewith.
Boisset, Jean - - -	2683	11th Oct. 1870	An improved apparatus for gymnastic exercises on two semicircular parallel arches, with starting and safety platforms.
Boland, Patrick - - -	1774	22nd June 1870	An improved bakers' barm or yeast.
Bolette, J. S. - - -	1754	18th June 1870	Doffing and dividing apparatus applicable to continuous cards. (*Patented by Benjamin Joseph Barnard Mills.*)
Bollack, Hermann - -	2843	28th Oct. 1870	Umbrellas, parasols and sunshades. (*Communicated by Monsieur Benedictus.*)
Bollinger, Henry - -	1656	8th June 1870	Machinery for dividing and condensing fibrous materials on carding-engines.
Bolton, Edward - - -	2966	11th Nov. 1870	Construction of crucibles or pots used in the manufacture of glass and other materials.
Bond, Henry - - - -	359	8th Feb. 1870	An improvement in the manufacture of quilts, counterpanes, table or toilet covers and other similar fabrics.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BOND, RICHARD - - -	5	1st Jan. 1870	Certain improvements in self-acting temples for looms.
BOND, ROBERT - - -	3204	6th Dec. 1870	Improvements in or connected with railway chairs.
BOND, THOMAS EDWARD -	2526	20th Sept. 1870	Apparatus or machinery for the manufacture of certain kinds of sweetmeats and lozenges.
BONHOMME, EDOUARD - -	2339	25th Aug. 1870	Electric clock-work. (*Patented by William Edward Newton.*)
BONNETT, HENRY - - -	3347	21st Dec. 1870	Waterclosets.
BONNEVILLE, HENRI ADRIEN -	122	14th Jan. 1870	Improved means for warming and ventilating close carriages and boat saloons. (*Communicated by Pierre Grandjean.*)
BONNEVILLE, HENRI ADRIEN -	524	23rd Feb. 1870	An apparatus for the manufacture of the legs of half boots. (*Communicated by Louis Badaracco.*)
BONNEVILLE, HENRI ADRIEN -	541	24th Feb. 1870	A new and useful improvement in steam-engines. (*Communicated by Guillaume Marie Henri Audemar.*)
BONNEVILLE, HENRI ADRIEN -	558	25th Feb. 1870	Manufacture of axles and shafts of various descriptions. (*Communicated by Marcius Chaney and Antoine Deschamps.*)
BONNEVILLE, HENRI ADRIEN -	725	11th March 1870	Certain new and useful improvements in machines for setting types. (*Communicated by John Ten Eyck Slingerland.*)
BONNEVILLE, HENRI ADRIEN -	1023	7th April 1870	A new and improved astronomical instrument by means of which is obtained the true time at mid-day or any other moment of the day, the latitude, the longitude and the meridian line. (*Communicated by François Martin Pannetrat.*)
BONNEVILLE, HENRI ADRIEN -	1482	23rd May 1870	A new and improved mode of manufacturing wooden floors and wainscots. (*Communicated by Edouard Maitre.*)
BONNEVILLE, HENRI ADRIEN -	1483	23rd May 1870	Sewing-machines. (*Communicated by Jean Sabot.*)
BONNEVILLE, HENRI ADRIEN -	1551	27th May 1870	Breech-loading fire-arms. (*Communicated by Joseph Auguste Cesar Brun.*)
BONNEVILLE, HENRI ADRIEN -	1552	27th May 1870	A new and improved label holder and fastener. (*Communicated by Victor Amilhau.*)
BONNEVILLE, HENRI ADRIEN -	1816	27th June 1870	A new and improved apparatus for warming and ventilating carriages and boats. (*Communicated by Pierre Grandjean.*)
BONNEVILLE, HENRI ADRIEN -	2097	26th July 1870	Certain improvements in canopies. (*Communicated by Augusta Margarette Rodgers.*)
BONNEVILLE, HENRI ADRIEN -	2203	9th Aug. 1870	Treatment of minerals and ores. (*Communicated by Outhenin Chalandre, senior.*)
BOOKER, GEORGE - - -	495	19th Feb. 1870	An improvement in applying metal handles to table knives and forks.
BOOTH, HUGH - - -	1440	19th May 1870	Certain improvements in looms for weaving.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Booth, James C. - - -	2382	1st Sept. 1870	An improved alloy or metal. (*Patented by Campbell Morfit.*)
Booth, John Billington -	1059	11th April 1870	Apparatus for lubricating and covering the spindles employed in machinery for preparing, spinning, doubling and winding fibrous materials.
Borden, Spencer - - -	3274	14th Dec. 1870	An improved process of eliminating the colouring matter of garancine and other products of madder. (*Patented by William Robert Lake.*)
Borel, Fritz - - - -	987	4th April 1870	An improved illuminating night clock. (*Patented by William Robert Lake.*)
Borgnet, Alfred - - -	1113	16th April 1870	Construction of retorts, muffles, pots and furnaces for reducing zinc and other ores.
Botterill, John - - -	421	12th Feb. 1870	An improved method of consuming smoke and economizing fuel in steam-boiler and other furnaces.
Botterill, John, the younger	421	12th Feb. 1870	An improved method of consuming smoke and economizing fuel in steam-boiler and other furnaces.
Bottom, Charles - - -	2420	6th Sept. 1870	Machinery or apparatus for forming, hardening, tempering, straightening and cutting paragon or other wires to be used for ribs and stretchers of umbrellas or other useful purposes.
Bottomley, Joseph - -	3122	29th Nov. 1870	Machinery or apparatus for "dewing" woollen or other woven or felted fabrics.
Bottomley, William, the [younger.	3122	29th Nov. 1870	Machinery or apparatus for "dewing" woollen or other woven or felted fabrics.
Boucher, Henry - - -	1885	4th July 1870	Manufacture of faggots or fire lighters.
Boucher, Henry - - -	3091	25th Nov. 1870	Manufacture of faggots or fire lighters.
Boucher, Simon - - -	2371	30th Aug. 1870	A new system of spinning and apparatus connected therewith.
Boughton, Harry - -	2834	27th Oct. 1870	Improvements in fog or alarm signals, and in apparatus for attaching fog or alarm signals to the rails of railways.
Boulay, Jean - - -	404	11th Feb. 1870	Improvements in the manufacture of twisted metal bars to form augers and drills, and an improved composite machine for twisting such augers and drills for screw-cutting, and for cutting metal rods, bars and tubes. (*Patented by Martin Macdermott and Arthur David Williams.*)
Boulay, Jean - - -	2220	10th Aug. 1870	Manufacture of twisted metal bars to form augers and drills, and an improved composite machine for twisting such augers and drills, and for cutting screws. (*Patented by Martin Macdermott and Arthur David Williams.*)
Bourne, George - - -	2506	17th Sept. 1870	An improved water guage.
Bourne, John - - -	1859	30th June 1870	Means of producing and regulating motive-power.
Bourne, John - - -	1909	6th July 1870	Means and apparatus employed in cutting various substances.
Bousfield, Edward Tenney	2295	19th Aug. 1870	Machinery for cutting grass or corn.
Bousfield, Edward Tenney	3206	6th Dec. 1870	Improved means for securing the joints of steam-boilers and tubes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Bousfield, George Tomlinson.	1170	22nd April 1870	Certain new and useful improvements in mowing and reaping machines. (*Communicated by Rudolf Eickemeyer.*)
Bousfield, George Tomlinson.	1437	18th May 1870	Looms for weaving. (*Communicated by Erastus Brigham Bigelow.*)
Bousfield, George Tomlinson.	1644	7th June 1870	Treatment of slag and other vitreous material. (*Communicated by Henry Baldwin, junior.*)
Bousfield, George Tomlinson.	1661	8th June 1870	Woven and knitted fabrics and yarns. (*Communicated by Louis Robbins and John Southmayd.*)
Bousfield, George Tomlinson.	1955	11th July 1870	Warp tension and left-off mechanism for power looms. (*Communicated by Erastus Brigham Bigelow.*)
Bousfield, George Tomlinson.	2544	22nd Sept. 1870	Manufacture of hydrocarbon oils made from petroleum, bituminous coals, shales, schists and other bituminous substances. (*Communicated by Joshua Merrill.*)
Bousfield, George Tomlinson.	2562	24th Sept. 1870	Printing type. (*Communicated by John William Wright.*)
Bousfield, George Tomlinson.	3182	3rd Dec. 1870	Manufacture of rosin oil. (*Communicated by Joshua Merrill.*)
Bousfield, George Tomlinson.	3388	29th Dec. 1870	Viaducts adapted both for pedestrian traffic and for the supply of fresh air to buildings in crowded localities. (*Communicated by John Perry.*)
Bouttier, Leon - -	508	21st Feb. 1870	Clips or shears for clipping or shearing horses and other animals, which are also applicable for other purposes. (*Patented by Thomas James Smith.*)
Bowden, Joseph - - -	3121	29th Nov. 1870	Machinery or apparatus for felting or planking hat bodies or other articles made of felt.
Bowen, Samuel - - -	3101	26th Nov. 1870	Apparatus or machinery employed in the manufacture of sheet glass and other objects made of glass.
Bower, Christopher Fabian	3014	17th Nov. 1870	Improved apparatus for the use of invalids.
Bowing, John - - -	358	8th Feb. 1870	Preparing and drying yeast.
Bown, William - - -	2781	21st Oct. 1870	An improved arrangement of feed regulator for sewing-machines.
Bowrah, John - - -	625	3rd March 1870	Communication between passengers, guard and engine driver, or either of them.
Boyce, James Edward - -	3178	2nd Dec. 1870	Umbrellas and parasols.
Boyd, Robert - - -	214	24th Jan. 1870	Improvements in bells and in the mode of hanging same. (*Communicated by Auguste Laroÿe.*)
Boyd, Robert - - -	289	1st Feb. 1870	Weighing-machines. (*Communicated by Camille Rolland.*)
Boyd, Robert - - -	2930	7th Nov. 1870	Machinery for tracing and multiplying patterns, designs and such like. (*Communicated by F. Henry Langsdorff.*)
Boyd, Robert - - -	3147	1st Dec. 1870	Boilers for generating steam. (*Communicated by Richard Lever.*)
Boyd, Robert - - -	3335	21st Dec. 1870	Steam-boilers. (*Communicated by Alfredo Jahn.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Boyle, Robert - - -	2120	28th July 1870	Ventilators.
Boyman, Richard Boyman -	623	3rd March 1870	Machinery for propelling vessels and aërial machines by reaction, parts of which are applicable to forcing fluids for other purposes.
Boyns, John - - - -	3241	10th Dec. 1870	Improvements in dressing, crushing and amalgamating metallic ores, and in apparatus employed for these purposes.
Bozorth, John - - -	1944	8th July 1870	Improved locking and releasing hooks. (*Patented by William Robert Lake.*)
Bracewell, Humphrey -	2648	6th Oct. 1870	Looms for weaving.
Bradbury, James - - -	851	23rd March 1870	Machinery for felting hat bodies.
Bradbury, John - - -	851	23rd March 1870	Machinery for felting hat bodies.
Bradbury, Thomas - -	1264	3rd May 1870	Improved means of communicating between the passengers, guard and engine driver upon railways.
Bradford, Hesikiah - -	2859	31st Oct. 1870	Ore-washing machines.
Bradley, Henry - - -	2269	16th Aug. 1870	An improved mode of treating or preparing clay, lime, chalk and other matters with carbolic acid, to produce a disinfectant and an insect or vermin repeller, and in apparatus for that purpose. (*Communicated by Charles Howard Jackson.*)
Bradshaw, Isaac - - -	1876	2nd July 1870	Looms for weaving.
Bradshaw, John Colpman -	2802	25th Oct. 1870	Multitubular steam-boilers.
Brady, James - - -	708	10th March 1870	Certain improvements in the manufacture and construction of skirts.
Brady, Richard - - -	2113	27th July 1870	Apparatus or machinery for raising and lowering revolving shutters.
Braidwood, William - -	2324	24th Aug. 1870	Printing presses.
Brainerd, Charles Newell	1226	28th April 1870	Apparatus for starting treadle motions, applicable to sewing-machines and other purposes. (*Patented by Alfred Vincent Newton.*)
Brampton, Frederick - -	2971	11th Nov. 1870	Holders and portfolios for holding or filing music and other sheets and for other like purposes.
Brandon, Alexander Horace.	269	29th Jan. 1870	Breech-loading fire-arms. (*Communicated by François Glisenti.*)
Brandon, Alexander Horace.	1008	6th April 1870	An improved strap fastener. (*Communicated by William Sparks Thomson.*)
Brandon, Alexander Horace.	1048	9th April 1870	Looms. (*Communicated by George Crompton.*)
Brandon, Alexander Horace.	1601	2nd June 1870	Carding and spinning machines. (*Communicated by John Goulding.*)
Brandon, Alexander Horace.	2208	9th Aug. 1870	Balance elevators. (*Communicated by Charles Brooks Sawyer, John Wesley Labaree and Parmala William Brewster.*)
Brandon, Alexander Horace.	2521	19th Sept. 1870	Vapor or gas-burners. (*Communicated by John Charles Love.*)
Brandon, Alexander Horace.	2603	30th Sept. 1870	Spinning machinery. (*Communicated by William Sparks Thomson.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Brandon, Alexander Horace.	2865	31st Oct. 1870	Means or apparatus for producing the more complete combustion of gas, paraffin and other hydrocarbon oils. (*Communicated by Henry Harrison Doty.*)
Brandon, David Hunter -	2528	20th Sept. 1870	Cut-off valve gear for steam-engines. (*Communicated by Daniel Frank Mosman.*)
Brandreth, Dr. Benjamin -	2391	2nd Sept. 1870	Covering and preserving of medical and other plasters. (*Patented by Ernest Seyd.*)
Brannon, Philip - - -	3272	14th Dec. 1870	Construction of navigable balloons.
Brannon, Philip - - -	3398	30th Dec. 1870	Formation of concrete works.
Brash, Peter - - -	1014	6th April 1870	Manufacture of illuminating gas.
Brash, Peter - - -	2078	23rd July 1870	Improvements in the manufacture of candles and in machinery or apparatus employed for that purpose.
Brasier, Edward - - -	280	31st Jan. 1870	Machinery for breaking, heckling, streaking and cleaning hemp, cleaning flax-tow, washing wool, and heckling, cleaning or washing other fibrous materials.
Brass, William - - -	468	17th Feb. 1870	Machinery or apparatus for dressing or working stone.
Bray, Edwin - - -	657	5th March 1870	Apparatus for burning and consuming smoke.
Breeden, Joseph - - -	1455	19th May 1870	Lift and force pumps.
Breeden, Joseph - - -	2903	3rd Nov. 1870	Self-closing taps or valves.
Bremner, Samuel - -	350	7th Feb. 1870	Feed apparatus for printing machines.
Brevoort, Henry Leffert -	1145	19th April 1870	An improved device for operating the throttle valve or regulator in locomotive engines and for other like purposes. (*Patented by Alfred Vincent Newton.*)
Brevoort, Henry Lefferts	3049	21st Nov. 1870	Condensers for steam pumps. (*Patented by Alfred Vincent Newton.*)
Brewer, Edward Griffith -	1848	29th June 1870	Improvements in and apparatus for preserving animal and vegetable substances. (*Communicated by Edward Roberts Kent.*)
Brewitt, Robert - - -	2827	27th Oct. 1870	Construction of bowls or rollers used in calendering and other pressing or squeezing machinery.
Brewster, Parmala William	2206	9th Aug. 1870	Balance elevators. (*Patented by Alexander Horace Brandon.*)
Brice, Alexander Charles	3283	15th Dec. 1870	An improved form or construction of knife or cutter, and in the modes of applying the same for the purpose of cutting, mowing, reaping or shearing and such like purposes.
Brien, Edwin Arthur O' -	2273	17th Aug. 1870	An improved fastener or "tie" for metallic bands employed in securing bales or packages of cotton or other matters packed under pressure. (*Communicated by Edward Pugh Jones.*)
Brierley, John Henry -	1725	16th June 1870	Ornamenting of fastenings for braces, belts and bands and other like articles.
Brierly, James - - -	1093	14th April 1870	Looms for weaving. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Briggs, Robert - - -	1569	30th May 1870	Improvements in the manufacture of sockets and ferrules of wrought iron and other metals, and in machinery employed for that purpose. (*Patented by Charles Denton Abel.*)
Briggs, Robert - - -	1570	30th May 1870	Improvements in the manufacture of wrought-metal tubes and in machinery or apparatus employed for that purpose. (*Patented by Charles Denton Abel.*)
Briggs, Robert - - -	1571	30th May 1870	Apparatus for drawing tube skelps. (*Patented by Charles Denton Abel.*)
Briggs, Robert - - -	3332	21st Dec. 1870	Machinery for shearing metals. (*Patented by Walter Williams.*)
Brimelow, Peter - - -	2244	12th Aug. 1870	Improved couplings for railway carriages and vehicles.
Brindley, John - - -	865	24th March 1870	Improvements in steam-boiler and other furnaces, applicable in part to fire-grates and stoves of various kinds.
Brinsmead, Henry - -	1619	4th June 1870	Thrashing machines.
Broadbent, Joseph Whitehead.	2299	20th Aug. 1870	Apparatus for cleansing steam-boilers.
Broadhurst, George - -	295	1st Feb. 1870	Improvements in india-rubber manufactures, and in tools or machinery employed therein.
Broadley, James - - -	622	3rd March 1870	Couplings for railway carriages.
Broadley, James - - -	2689	11th Oct. 1870	Looms for weaving.
Broadley, James - - -	2945	8th Nov. 1870	Improved mechanical arrangements for coupling and uncoupling railway locomotives, carriages, trucks and vehicles.
Broadwell, Lewis Wells -	2474	14th Sept. 1870	Apparatus for supplying or feeding revolving guns or mitrailleuses with cartridges.
Brocchi, Paul - - -	498	19th Feb. 1870	Obtainment or production of oxygen gas. (*Patented by John Henry Johnson.*)
Brockbank, George Henry	766	15th March 1870	Upright pianoforte actions.
Brockway, Josephus - -	2892	2nd Nov. 1870	Improvements in the preparation of artificial teeth, and in the manufacture of mouthplates or supports therefor. (*Patented by Urial King Mayo.*)
Brode, Louis Abraham -	1024	7th April 1870	Obtaining fibre suitable for making paper and a brown coloring matter.
Brodie, Walter - - -	1432	18th May 1870	Construction of vehicles used on railways, tramways or common roads.
Brook, Charles - - -	1326	9th May 1870	An improvement in the manufacture of sewing thread.
Brook, Henry Beriah - -	1499	24th May 1870	An improved medicinal compound or stomachic cordial.
Brooke, Henry - - -	1306	7th May 1870	A new or improved drain pipe rest and subsoil drain.
Brooke, Oswald - - -	3348	22nd Dec. 1870	Manufacture of non-inflammable brattice cloths.
Brooke, Samuel - - -	833	21st March 1870	Improvements in the doffers of condensing carding-engines and means or apparatus for effecting the same.
Brookes, Samuel - - -	1591	1st June 1870	Construction of machinery for preparing and hackling flax.
Brooks, Adam - - -	344	7th Feb. 1870	Machinery for covering telegraph wires.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BROOKS, HENRY - - - -	344	7th Feb. 1870	Machinery for covering telegraph wires.
BROOKS, HENRY - - -	1109	16th April 1870	Certain improvements in the construction of receptacles for containing liquids, to facilitate the control of egress or delivery therefrom.
BROOKS, HENRY - - -	2095	25th July 1870	Improvements in the manufacture of stoppers for bottles and other vessels, and in the means employed in such manufacture.
BROOKS, JOHN - - -	671	7th March 1870	An improved watch protector.
BROOKS, JOHN - - -	2868	31st Oct. 1870	Bushes of pulley blocks for ships or vessels.
BROOKS, JOHN - - -	3127	29th Nov. 1870	Construction of cramps used by carpenters, joiners, builders and others.
BROOKS, SAMUEL - - -	680	8th March 1870	Machinery for spinning and doubling.
BROOKS, SAMUEL - - -	2230	11th Aug. 1870	Certain improvements in machinery for preparing cotton and other fibrous substances.
BROOKS, THOMAS - - -	2887	2nd Nov. 1870	An improvement in postal and other wrappers.
BROOKSBANK, FRANCIS WILLIAM.	1088	13th April 1870	Manufacture of lace in twist lace machines.
BROPHY, ANDREW FINGAR -	1689	11th June 1870	Staining and ornamenting wood.
BROTHERHOOD, PETER - -	47	6th Jan. 1870	Packing of pistons, glands, pipe and other joints.
BROTHERHOOD, PETER - -	2174	4th Aug. 1870	Apparatus for accumulating hydrostatic pressure.
BROTHERHOOD, PETER - -	2909	4th Nov. 1870	Boilers for heating liquids, generating steam and other like purposes.
BROUARD, MATHURIN - -	1244	30th April 1870	An improved spring-fastening for securing purses, pocket-books, cigar-cases and similar articles, and for other like purposes. (*Patented by William Robert Lake.*)
BROUGH, WILLIAM, senior -	1294	5th May 1870	Construction of ovens and kilns.
BROUGH, WILLIAM, junior. -	1294	5th May 1870	Construction of ovens and kilns.
BROUGHTON, FREDERICK -	1337	11th May 1870	New perforated fire bars applicable to locomotive and steam-boilers.
BROUGHTON, THOMAS - -	1887	4th July 1870	Apparatus employed in drawing, roving, doubling, spinning and twisting wool and other fibres.
BROWN, ALEXANDER BURTON	406	11th Feb. 1870	Apparatus or appliances for transporting heavy objects from one locality to another.
BROWN, ANDREW - - -	181	20th Jan. 1870	Plant or apparatus used for dredging purposes.
BROWN, ANDREW BETTS -	1018	7th April 1870	Improvements in steering gear, and in machinery for starting, stopping and reversing heavy steam-engines and turrets, and for discharging cargo.
BROWN, ARCHIBALD - -	1058	11th April 1870	Ornamenting wood, leather and other materials for the manufacture of fancy boxes, furniture, panellings, and for other ornamental purposes.
BROWN, ARCHIBALD DOUGLAS	247	27th Jan. 1870	Machinery or apparatus for cutting curved and irregular forms.
BROWN, BENJAMIN - -	64	8th Jan. 1870	An improvement in machinery used for spinning and doubling cotton and other fibrous substances.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Brown, Champion - -	2533	21st Sept. 1870	Machinery for skiving and cutting leather for the manufacture of boots and shoes. (*Patented by William John Barron and Edmund Charles Barron.*)
Brown, David - - -	1317	9th May 1870	Machinery for dressing flax, hemp and other analogous materials.
Brown, Gavin - - -	754	15th March 1870	Velocipedes.
Brown, George - - -	2162	3rd Aug. 1870	An improved process of preparing iron to be used in the manufacture of steel.
Brown, Henry Edward -	2164	3rd Aug. 1870	"Landaus" and other carriages.
Brown, Isaac - - -	2332	25th Aug. 1870	Manufacture of thin lead pipes for use in irrigation purposes.
Brown, James Wotherspoon	247	27th Jan. 1870	Machinery or apparatus for cutting curved and irregular forms.
Brown, Jesse Bailey - -	897	26th March 1870	Rotary printing machines. (*Patented by Alexander Melville Clark.*)
Brown, John Harcourt -	2719	14th Oct. 1870	Manufacture of leather from the refuse of tanned and untanned hides and skins, in combination with woollen, hemp, flax and other fibrous materials.
Brown, John Harcourt -	2720	14th Oct. 1870	Manufacture of leather paper.
Brown, Jonas - - -	420	12th Feb. 1870	Utilization of the dried or "hard" waste made in the process of wet flax spinning.
Brown, Jonas - - -	488	18th Feb. 1870	An improved process for the conversion of the hard waste of flax, hemp and tow into thread or yarn.
Brown, Jonas - - -	734	12th March 1870	Improvements in carding-engines for carding hemp, flax, tow, china-grass, wool, silk, cotton and all other fibrous substances, both animal and vegetable, also for carding the waste of flax, hemp and tow, whether hard or soft waste, as well as cotton waste, cop bottoms, waste yarns, or any other waste or yarns, the produce of any fibrous substances either animal or vegetable, also for pulling and carding carpets, stockings, hosiery, rags, fents, or remnants of any textile or felted or knitted fabrics of hemp, flax, tow, china-grass, wool, silk, cotton or other fabric, the produce of any fibrous substances either animal or vegetable.
Brown, Martin - - -	423	12th Feb. 1870	Improvements in the manufacture of carpets and in the machinery to be employed therein.
Brown, Martin - - -	2247	12th Aug. 1870	Improvements in the manufacture of carpets and in the machinery to be employed therein.
Brown, Richard - - -	3054	22nd Nov. 1870	Furnaces for smelting iron.
Brown, Richard - - -	3106	26th Nov. 1870	Miners' safety lamps.
Brown, Robert - - -	2863	31st Oct. 1870	An improved silicious compound applicable for the manufacture of pipes, tiles, bricks and other articles for buildings, also for paths, floors, roofs and other analogous purposes. (*Patented by William Edward Newton.*)
Brown, Samuel Shaw - -	2539	22nd Sept. 1870	Machinery or apparatus for the manufacture of lint and lint bandages.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Brown, Thomas - - -	608	2nd March 1870	An improved apparatus for feeding or supplying steam generators with water, which said apparatus is applicable to the raising and forcing of water and other liquids. (*Communicated by Camille Faure.*)
Brown, Thomas - - -	2258	13th Aug. 1870	Machinery for compressing air. (*Communicated by Charles Burleigh.*)
Brown, Thomas Common -	1768	21st June 1870	Improvements in valves applicable to steam or water pressure.
Brown, William - - -	548	24th Feb. 1870	Feed water heaters for steam generators.
Brown, William - - -	1141	19th April 1870	Improvements in the construction of thrust blocks, plummer blocks and such like mechanism used in steam ships, the said improvements being applicable to all kinds of screw and lifting jacks, and for the bearings of cranes, mill shafts and such like machinery.
Brown, William - - -	1796	24th June 1870	Construction of steam and hydraulic rams used in naval warfare.
Brown, William - - -	1991	14th July 1870	Construction of screw propellers used in steam ships.
Brown, William - - -	2605	30th Sept. 1870	Construction of paddle wheels for propelling ships and other navigable vessels through water.
Browne, Alexander - -	1207	26th April 1870	Construction of multitubular steam-boilers. (*Communicated by Georg Friedrich Udelhoven.*)
Browne, Alexander - -	1488	23rd May 1870	Screw-propellers. (*Communicated by Cornelis Johannes Wilton Van Reede.*)
Browne, Henry - - -	1260	3rd May 1870	Improvements in textile fabrics for book covers and in weaving the same.
Browne, John Collis - -	3243	10th Dec. 1870	Improved apparatus or combination tool for military and other purposes.
Brownell, Emerson P. -	1990	14th July 1870	An improved machine for manufacturing spools. (*Patented by William Robert Lake.*)
Brownlie, William - -	2143	1st Aug. 1870	Manufacture of show tables.
Brown-Westhead Marcus -	1187	23rd April 1870	Machinery for plaiting or folding tapes and other narrow fabrics.
Bruce, Henry - - -	3143	1st Dec. 1870	Improved method of treating wood and other similar fibrous substances for the manufacture of half-stuff and paper.
Bruce, Thomas - - -	1947	9th July 1870	Pumping or forcing apparatus for hydraulic presses and for compressing or exhausting elastic fluids.
Brun, Joseph Auguste Cesar	1551	27th May 1870	Breech-loading fire-arms. (*Patented by Henri Adrien Bonneville.*)
Brunon, Barthélemy - -	583	26th Feb. 1870	Improvements in the manufacture of wrought metal wheels and in machinery for the same. (*Patented by Alexander Melville Clark.*)
Brunon, Claude - - -	583	26th Feb. 1870	Improvements in the manufacture of wrought metal wheels and in machinery for the same. (*Patented by Alexander Melville Clark.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Brunon, Gabriel - -	583	26th Feb. 1870	Improvements in the manufacture of wrought metal wheels and in machinery for the same. (*Patented by Alexander Melville Clark.*)
Brunton, John - - -	2586	29th Sept. 1870	Machinery or apparatus for working and interlocking railway switches, tongues, or moveable points and signals.
Brunton, John - - -	2991	15th Nov. 1870	Meters for water or other fluids.
Brunton, John Dickinson -	1673	9th June 1870	Ventilation of tunnels.
Brun-Virloy, Alexandre Le	328	4th Feb. 1870	Improvements in treating iron ores and in the furnaces or ovens employed for such purpose.
Brusch, Francis - - -	719	11th March 1870	Automatic apparatus for operating the dampers of steam-boilers and of other furnaces.
Bryant, Amos - - -	3107	26th Nov. 1870	Improvements in deodorising and treating sewage and in apparatus to be employed for this purpose.
Bryant, Henry - - -	1573	30th May 1870	An improved apparatus for illustrating the motions of some of the heavenly bodies, and explaining various celestial phenomena.
Bryce, William - - -	3025	18th Nov. 1870	Improvements in steam generators and in apparatus in connection therewith.
Brydon, Robert - - -	2447	10th Sept. 1870	Arrangements and mechanism for preventing or providing against accidents in winding or hoisting machinery used for mines and other purposes.
Buchanan, J. R. - - -	2782	21st Oct. 1870	Improvements in the manufacture of salt and in the apparatus employed therein. (*Patented by William Edward Newton.*)
Buchanan, James - - -	1935	8th July 1870	Kilns employed in the manufacture and reburning of animal charcoal.
Buchholz, Gustav Adolph -	229	25th Jan. 1870	Improved machinery for manufacturing semolina and flour.
Buchholz, Gustav Adolph -	867	24th March 1870	Improved machinery for manufacturing semolina and flour.
Buck, George - - -	788	17th March 1870	Manufacture of fire lighters.
Buck, William - - -	3124	29th Nov. 1870	Machinery or apparatus for locking or controlling the hand levers of railway points and signals.
Buck, William - - -	3142	30th Nov. 1870	Machinery for making bricks or tiles.
Buckland, William Edwin -	2803	25th Oct. 1870	Securing the rails in the chairs for the permanent way of railways.
Bugg, Frederick John -	2519	19th Sept. 1870	Manufacture of artificial leather.
Bugg, Frederick John -	2697	12th Oct. 1870	Improvements in the manufacture of pressed leather and in apparatus for cutting leather into various forms.
Bugg, Frederick John -	3196	5th Dec. 1870	Manufacture of pressed leather.
Bujac, Matthew Julius -	236	26th Jan. 1870	Preparing surfaces for skating in all seasons. (*Patented by William Edward Newton.*)
Bulcock, John - - -	2648	6th Oct. 1870	Looms for weaving.
Bull, William, F.L.S., [F.R.H.S.	1830	27th June 1870	An improved case for the conveyance of plants.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BULLER, ERNEST WENTWORTH	1232	29th April 1870	Improvements in attaching door and other knobs and handles to spindles, and in the manufacture of door and other knobs and handles, parts of which improvements may be applied to the manufacture of the terminal ornaments of metallic furniture and other articles.
BULLOCK, WILLIAM - -	2336	25th Aug 1870	Improvements in waterproof garments, which improvements are also applicable to garments in general.
BULLOUGH, JAMES - - -	286	1st Feb. 1870	Looms for weaving.
BULLOUGH, JOHN - - -	555	25th Feb. 1870	Warping or beaming and sizing machines.
BULLOUGH, JOHN - - -	1310	7th May 1870	Sizing machines.
BULLOUGH, JOHN - - -	1526	26th May 1870	Tape dressing or sizing machines.
BULLOUGH, JOHN - - -	1767	21st June 1870	Slasher sizing machines. (*Communicated by Daniel Hussey and Frederick Allen Leigh.*)
BÜNGER, FREDERIC LUDOVICUS [HENRI WILLIAM.	609	2nd March 1870	Arrangement and construction of "steam "traps" or apparatus for discharging the water resulting from condensed steam, from steam pipes or apparatus where steam is employed.
BURG, DR. OTTO - - -	2645	6th Oct. 1870	Electro-dynamic apparatus for keeping off thieves.
BURGESS, CHARLES THOMAS -	2801	24th Oct. 1870	Reaping and mowing machines.
BURGESS, WILLIAM JAMES -	2801	24th Oct. 1870	Reaping and mowing machines.
BURLEIGH, CHARLES - -	2258	13th Aug. 1870	Machinery for compressing air. (*Patented by Thomas Brown.*)
BURLEY, JOHN - - -	1616	4th June 1870	A new or improved moustache support.
BURNETT, CUTHBERT - -	2651	6th Oct. 1870	Means or apparatus for raising and measuring beer and other liquids.
BURNETT, MATTHEW - -	3123	29th Nov. 1870	Improvements in condensing steam, in precipitating and reducing heat and smoke, and in apparatus therefor.
BURNEY, FREDERICK - -	2816	26th Oct. 1870	Improvements in the manufacture of "pebble" gunpowder and in means or apparatus for the same.
BURNEY, GEORGE -	1905	6th July 1870	Storing petroleum and other inflammable or explosive liquids.
BURNLEY, JAMES - - -	1217	27th April 1870	Improvements in steam-boilers and the furnaces thereof.
BURRELL, THOMAS - - -	2070	22nd July 1870	Governors for marine engines.
BURT, JAMES - - - -	2438	9th Sept. 1870	Floating dredgers or machinery for loosening, raising, transporting and depositing sand, gravel and mud. (*Patented by Thomas Burt.*)
BURT, THOMAS - - -	2438	9th Sept. 1870	Floating dredgers or machinery for loosening, raising, transporting and depositing sand, gravel and mud. (*Communicated by James Burt.*)
BURTON, BETHEL - - -	1283	4th May 1870	Breech-loading fire-arms and cartridges therefor.
BURY, WILLIAM TARLETON -	2188	6th Aug. 1870	Picks, adzes, axes and tools of a similar character.
BURY, WILLIAM TARLETON -	2189	6th Aug. 1870	An improved mode of shafting picks, axes, adzes and tools of a similar character.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Bush, Sarah Beauchamp -	2822	27th Oct. 1870	Improved means of and apparatus for preventing the entrance of flies and other insects and reptiles into rooms or apartments of buildings, ships and carriages.
Bush, William - - -	1683	11th June 1870	Construction and arrangement of carriages or other vehicles.
Bush, William Henry - -	397	10th Feb. 1870	Printing machines more especially designed for printing cards. (*Patented by William Robert Lake.*)
Bushby, Thomas - - -	1583	31st May 1870	Pill-making machines.
Busk, Charles James - -	998	5th April 1870	An improved method of preparing or treating cements for the purpose of rendering them applicable for the production of artificial stone and architectural ornaments. (*Communicated by Robert Parish Busk.*)
Busk, Robert Parish - -	998	5th April 1870	An improved method of preparing or treating cements for the purpose of rendering them applicable for the production of artificial stone and architectural ornaments. (*Patented by Charles James Busk.*)
Buss, Eduard - - -	161	19th Jan. 1870	Governors for regulating the speed of prime movers. (*Patented by John Garrett Tongue.*)
Buss, Eduard - - -	1130	19th April 1870	Certain improvements in door locks and latches. (*Patented by Henry Bernoulli Barlow.*)
Buss, Wilhelm Albert -	161	19th Jan. 1870	Governors for regulating the speed of prime movers. (*Patented by John Garrett Tongue.*)
Bussey, George Gibson -	150	18th Jan. 1870	Improved apparatus in connection with the ariel top and which is applicable to other purposes.
Bussey, George Gibson -	1933	7th July 1870	An improved apparatus to be used as a substitute for bird-trap shooting.
Butcher, John - - -	1964	12th July 1870	Fountain pens.
Butcher, William - -	1724	16th June 1870	Improvements in steel washers and in apparatus employed for forming the same. (*Patented by William Robert Lake.*)
Butler, James William -	1664	9th June 1870	Machinery or apparatus for supplying coal, cannel or other substances to gas retorts or ovens, and for withdrawing the same after distillation.
Butler, James William -	3039	21st Nov. 1870	Application of concrete to structures and foundations for the same, also to coffer dams.
Butler, William David -	1664	9th June 1870	Machinery or apparatus for supplying coal, cannel or other substances to gas retorts or ovens, and for withdrawing the same after distillation.
Butterfield, Benjamin -	1692	13th June 1870	Muzzles for dogs.
Butterworth, Ellis - -	2629	3rd Oct. 1870	Furnaces for steam-boilers and other purposes.
Butterworth, Joseph - -	1824	27th June 1870	Making of carriage, cart and other wheels.
Butterworth, Joseph - -	1825	27th June 1870	Improvements in making wooden skewers, and in the machinery, apparatus and means to be employed therein.
Byron, George Gordon de [Luna.	1393	16th May 1870	Apparatus, instruments or appliances for washing and rinsing.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
BYWATER, WILLIAM - -	2548	23rd Sept. 1870	Machinery for drawing, spinning and twisting flax, tow, wool, worsted, silk, cotton, china-grass or other fibrous substances.
BYWATER, WILLIAM - -	2814	26th Oct. 1870	Machinery for drawing, spinning and twisting flax, tow, wool, worsted, silk, cotton, china grass or other fibrous substances.

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CABE, JOSEPH MC - - -	254	28th Jan. 1870	Looms for weaving.
CABE, WILLIAM MC - -	1854	29th June 1870	Apparatus for effecting the delivery of mail bags and parcels to railway trains in motion. (*Patented by William Robert Lake.*)
CACHAL, LÉONCE - - -	1396	16th May 1870	An improved liquid for raising paste or dough.
CADBURY, JOEL - - -	1655	8th June 1870	Collar and shirt studs and other studs for fastening articles of dress.
CADMAN, JOHN RICHARD -	974	2nd April 1870	Constructing and fitting brackets for shop windows and other purposes.
CAHEN, MICHAEL - - -	1892	4th July 1870	An improved method of absorbing sulphurous fumes or sulphurous acid, and obtaining thereby useful products.
CAIL, JEAN FRANÇOIS - -	28	4th Jan. 1870	Processes for the purification of saccharine syrups. (*Patented by John Garrett Tongue.*)
CAIL, JEAN FRANÇOIS - -	1900	5th July 1870	Improvements in evaporating and boiling or concentrating liquids, and in apparatus employed therein. (*Patented by John Henry Johnson.*)
CAIL, JEAN FRANÇOIS - -	2212	9th Aug. 1870	Improvements in the extraction of juice from sugar cane and in apparatus employed therein. (*Patented by John Henry Johnson.*)
CAILLIEUX, EUGÈNE - -	1846	29th June 1870	Eccentric paddle wheels of every description.
CALAHAN, EDWARD AUGUSTINE	2905	3rd Nov. 1870	Pneumatic telegraphs. (*Patented by William Robert Lake.*)
CALDERWOOD, WILLIAM -	2949	9th Nov. 1870	Improvements in or connected with furnaces for boilers, evaporating vessels and stills.
CALDWELL, JAMES - - -	2006	15th July 1870	Purchase capstans.
CALVER, THOMAS - - -	2181	5th Aug. 1870	Improvements in metallic eyelets and in shanks to buttons.
CALVERT, CHARLES ALEXANDER.	178	20th Jan. 1870	An improved apparatus for self-registering and checking the money taken for admissions to public entertainments, and other places where a check on money taking is desirable.
CALVERT, CHARLES ALEXANDER.	1674	9th June 1870	Means of checking and indicating the number of passengers carried by an omnibus or other similar public conveyance.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CALVERT, CHARLES ALEXANDER.	3351	22 Dec. 1870	Apparatus for drawing off and measuring liquids.
CAMALEZ, MARTIN - - -	1609	3rd June 1870	An improved bit. (*Patented by Michael Henry.*)
CAMBRIDGE, EDWIN - -	868	24th March 1870	Improvements applicable to steam-boilers or generators.
CAMERON, DUNCAN - -	581	26th Feb. 1870	Metallic pens.
CAMPBELL, ALEXANDER - -	1359	12th May 1870	A new or improved dip or smear for destroying vermin or disease in sheep or other animals.
CAMPBELL, ALEXANDER - -	3064	23rd Nov. 1870	Improved means for securing screw nuts and keys or wedges. (*Patented by Alfred Vincent Newton.*)
CAMPBELL, ARCHIBALD SAMUELS.	209	22nd Jan. 1870	An improved appliance for facilitating the working of bicycles and tricycles.
CAMPBELL, COLIN - - -	459	16th Feb. 1870	Manufacture of vegetable parchment or parchment paper. (*Patented by William Robert Lake.*)
CAMPBELL, COLIN - - -	2100	26th July 1870	Manufacture of vegetable parchment or parchment paper. (*Patented by William Robert Lake.*)
CAMPBELL, COLIN MINTON -	1744	17th June 1870	Manufacture of mosaic plaques or slabs suitable for external and internal decorations.
CAMPBELL, JOHN - - -	1281	4th May 1870	Process or method of drawing flax and other fibrous substances.
CAMPION, RICHARD - -	1599	2nd June 1870	Couplings for railway carriages. (*Patented by William Robert Lake.*)
CAMPION, RICHARD - -	3120	28th Nov. 1870	Couplings for railway carriages. (*Patented by William Robert Lake.*)
CAMPION, WILLIAM - -	84	11th Jan. 1870	Sewing-machines.
CAMROUX, FERDINAND OLIVER.	497	19th Feb. 1870	Machinery or apparatus for breaking or reducing stones, and for crushing quartz or schist, bones, emery, ores and all mineral and other substances.
CAPEWELL, GEORGE J. - -	3188	3rd Dec. 1870	Buttons. (*Patented by George Haseltine.*)
CAPON, CHARLES HENRY -	3385	28th Dec. 1870	Materials for the manufacture of paper, also applicable for other purposes.
CAPPER, JASPER - - -	937	31st March 1870	Chimney tops or caps.
CAREY, GEORGE HOWARD -	1025	7th April 1870	An improvement in typographic, lithographic and zincographic printing machines.
CAREY, ISAAC - - - -	1793	23rd June 1870	An improved faucet. (*Patented by William Robert Lake.*)
CARNABY, JOHN - - -	61	7th Jan. 1870	Improvements in dials for gas regulators and in dials in general, also in besils or rings for dial faces.
CARNELLEY, WILLIAM - -	1533	26th May 1870	Steam-boilers.
CARPENTER, JOHN - - -	2700	13th Oct. 1870	Machinery for preparing, spinning, winding and doubling cotton and other fibrous materials, partly applicable to lubricating upright shafts.
CARPENTER, MARY PEMELLAIA	182	20th Jan. 1870	Needles and needle arms for sewing-machines. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CARR, CHARLES JOHN - -	1836	28th June 1870	Shoes for horses and other animals, and an improved method of fastening or securing shoes to horses and other animals' feet.
CARR, THOMAS - - -	1895	5th July 1870	Improvements in machinery and arrangements for cleaning and reducing wheat, maize, beans, peas and other seeds, into flour or semolina, part of which improvements are applicable to machinery for pulverising or reducing other substances.
CARR, THOMAS - - -	2149	2nd Aug. 1870	An improved manufacture of wheat flour.
CARRUTHERS, JOHN HORNSBY	1589	1st June 1870	Wheels.
CARSON, WILLIAM HUGH -	1034	8th April 1870	An improved automatic lamb-creep.
CARTER, CHARLES FREDERICK	2556	23rd Sept. 1870	Stamping or embossing presses.
CARTER, GEORGE HAYES -	2453	10th Sept. 1870	Construction of paddle wheels for propelling ships and other navigable vessels through water.
CARTER, HENRY - - -	781	16th March 1870	An improved machine for forming trenches or ditches. (*Patented by William Robert Lake.*)
CARTER, JOHN - - -	3004	16th Nov. 1870	Scissors, shears and other like cutting instruments.
CARTER, JOHN BRAXTON -	1135	19th April 1870	Studs or buttons. (*Patented by Benjamin Joseph Barnard Mills.*)
CARTER, JOHN WALKER MC -	1968	12th July 1870	Condensers for steam-engines.
CARTER, ROBERT - - -	2068	22nd July 1870	Certain improvements in lockets, which said improvements are applicable to brooches, bracelets and other articles of jewellery.
CARTER, WILLIAM - - -	2250	12th Aug. 1870	Knitting-machines. (*Patented by Alexander Melville Clark.*)
CARTER, WILLIAM - - -	3092	25th Nov. 1870	Manufacture of nets used for ladies' hair.
CARTER, WILLIAM - - -	3158	1st Dec. 1870	Manufacture or production of plain and fancy nets and laces.
CARTNEY, WILLIAM NEWTON [MAC.	982	4th April 1870	A new or improved process for dissolving or reducing crude or manufactured indian-rubber.
CARULLA, FACUNDO JOAQUIN [RAMON.	2325	24th Aug. 1870	An improved process of purification of cast iron from sulphur and phosphorus, in the manufacture of steel.
CARVALHO, TRAJANO AUGUSTO [DE.	1492	23rd May 1870	Ships and vessels.
CARVER, HENRY CLIFTON -	2594	30th Sept. 1870	Machinery and arrangement for separating mixed substances or materials of different specific gravities.
CASPER, EDWARD - - -	1519	25th May 1870	Machinery for cutting wood screws and slot bolts. (*Patented by Alexander Melville Clark.*)
CASTHELAZ, JOHN - - -	1425	18th May 1870	Improvements in the manufacture of artificial alkaloids derived from coal tar, and in the preparation of salts of the said alkaloids.
CASTLE, JAMES JOHN - -	141	17th Jan. 1870	Apparatus for adjusting and securing the knobs or handles of locks, latches and other fastenings.
CATE, EBENEZER - - -	2805	25th Oct. 1870	Horse-shoes. (*Patented by Bristow Hunt.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CATHELS, EDMUND SMALL -	259	28th Jan. 1870	Apparatus used in the manufacture of gas, part of which apparatus is also applicable for ventilating mines, for promoting combustion, and for pumping, measuring and forcing fluids.
CATLIN, SETH CLINTON - -	1429	18th May 1870	An improved automatic barrel-filling apparatus. (*Patented by William Edward Newton.*)
CATLOW, CHRISTOPHER - -	1785	23rd June 1870	Certain improvements in the preparation of "cops" and "healds" employed in the manufacture of woven fabrics.
CATT, CHARLES SHORTEN -	1151	20th April 1870	Wheels for carriages.
CATT, WILLIAM - - -	1151	20th April 1870	Wheels for carriages.
CATTELL THOMAS - - -	588	28th Feb. 1870	Preparing, treating and purifying fibrous vegetable and fibrous animal substances.
CAVAYÉ, H. AND COMPANY -	1288	5th May 1870	Treatment of maize. (*Patented by John Henry Johnson.*)
CAYCE, JOHN MADISON - -	2890	2nd Nov. 1870	Apparatus for producing and applying motive-power. (*Patented by Alexander Melville Clark.*)
CAYEUX, ERNEST MAXIME [THEODORE.	1462	20th May 1870	An improved arrangement of apparatus for diminishing the friction of spindles, axles, and other similar rotating bodies. (*Patented by Thomas James Smith.*)
CHADBURN, CHARLES HENRY	2384	1st Sept. 1870	Mechanical telegraphs and liquid to be used therewith, which fluid is also applicable as a power transmitter for other purposes, for the making of liquid joints, and other purposes where it is desirable to use a liquid that does not readily congeal or evaporate.
CHADBURN, WILLIAM - -	2384	1st Sept. 1870	Mechanical telegraphs and liquid to be used therewith, which fluid is also applicable as a power transmitter for other purposes, for the making of liquid joints, and other purposes where it is desirable to use a liquid that does not readily congeal or evaporate.
CHADWICK, HENRY ALLEN -	870	24th March 1870	Turbine water-wheels. (*Patented by William Robert Lake.*)
CHAFER, EDWIN - - -	484	18th Feb. 1870	Billiard and bagatelle tables.
CHALANDRE, OUTHENIN, senior	2203	9th Aug. 1870	Treatment of minerals and ores. (*Patented by Henri Adrien Bonneville.*)
CHAMBERLAIN, ARTHUR -	2988	15th Nov. 1870	An improvement or improvements in castors for furniture. (*Communicated by Robert Stothert Kirkpatrick.*)
CHAMBERLIN, WILLIAM -	3211	6th Dec. 1870	Railway signals.
CHAMEROY, BERNARD HIP- [POLYTE.	1329	10th May 1870	Cocks.
CHAMEROY, EDME AUGUSTIN	80	11th Jan. 1870	Means and apparatus for gauging or regulating the flow of water or other liquids.
CHANDLER, WILLIAM AUBREY	1703	14th June 1870	Improvements in railway and other carriage wheels, by the application of vulcanised india-rubber or any compound thereof.
CHANEY, MARCIUS - -	558	25th Feb. 1870	Manufacture of axles and shafts of various descriptions. (*Patented by Henri Adrien Bonneville.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CHANONY, ROBERT - -	414	11th Feb. 1870	Playing cards.
CHAPLIN, JOHN THOMAS -	1936	8th July 1870	Wheels to be used on railways. (*Patented by Philip Chaplin.*)
CHAPLIN, PHILIP - - -	1936	8th July 1870	Wheels to be used on railways. (*Communicated by Alexander Peyman and John Thomas Chaplin.*)
CHAPMAN, GEORGE TEMPLE -	2790	22nd Oct. 1870	An improved mode of producing a hard protective or ornamental covering or coating of compounds of india-rubber or gutta-percha, upon metal and other surfaces. (*Patented by William Robert Lake.*)
CHAPMAN, JOHN CRAM -	1252	2nd May 1870	An improved valve or stop-cock. (*Patented by William Robert Lake.*)
CHAPMAN, MIDDLETON - -	855	23rd March 1870	An improved album or device for containing photographic or other pictures.
CHAPMAN, WILLIAM FLOYD -	110	13th Jan. 1870	Cases or apparatus for transmitting and exhibiting cut flowers.
CHARLES, PETER - - -	3334	21st Dec. 1870	Boxes or receptacles for reels to regulate the unwinding of the thread therefrom.
CHARLES, THOMAS NORMAN -	3204	6th Dec. 1870	Improvements in or connected with railway chairs.
CHARLICK, JAMES GEORGE -	1426	18th May 1870	Holding frames or brackets, or apparatus for holding and securing cash, deed and jewell boxes or other portable articles of value.
CHARLTON, SAMUEL - -	158	19th Jan. 1870	Scale beams.
CHARNLEY, ROGER - - -	2263	15th Aug. 1870	Improved machinery for preventing floats in weaving.
CHARTON-JOANOT, JEAN LOUIS	10	3rd Jan. 1870	A new and improved vehicle to be propelled by manual power. (*Patented by William Edward Gedge.*)
CHASE, WILLIAM HENRY -	3294	16th Dec. 1870	An improved device for securing clothes or other articles upon a rope or line. (*Communicated by Henry Austin Tweed.*)
CHATEL, FRANÇOIS ALFRED -	1831	27th June 1870	Candles. (*Patented by William Robert Lake.*)
CHATTERIS, HERBERT - -	1982	14th July 1870	Means or apparatus for indicating or recording and registering the times of arrival or leaving of workmen and others, also applicable to tell-tales for watchmen.
CHATWOOD, SAMUEL - -	715	10th March 1870	Direct-acting power hammers and machinery for crushing and pulverising.
CHATWOOD, SAMUEL - -	2654	6th Oct. 1870	Safes, strong rooms and apparatus for the protection of valuable property.
CHELLINGWORTH, THOMAS [TERTIUS.	1945	9th July 1870	An improved hot air-engine.
CHENAILLIER, PAUL - -	739	12th March 1870	An improved holder for cartridges. (*Communicated by Monsieur Pierre Marie Fouque.*)
CHENAL, JOSEPH JULIEN -	149	18th Jan. 1870	A new lever for changing alternate rotary motion into continuous rotary motion, and vice versâ. (*Patented by Henry Woodcroft Hammond.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CHERRY, JOHN - - -	1173	22nd April 1870	Improvements in roofing tiles, and in the method of locking or fastening them together when being formed into a roof, and in the ridging for tiled roofs, and in the apparatus used in the manufacture of such tiles, fastenings and ridges, and also of articles used for similar purposes and for bricks.
CHERRY, RICHARD - - -	1134	19th April 1870	Looms for weaving.
CHEVRIER, GERVAIS - -	153	18th Jan. 1870	Treatment of acid tars obtained from bog-head mineral schist or petroleum. (*Patented by John Henry Johnson.*)
CHILD, BAYLIS - - -	2969	11th Nov. 1870	Manufacture of alkalized isinglass, sulphited and bisulphited. (*Patented by Edward Herring.*)
CHILD, TOM - - - - -	2432	8th Sept. 1870	Machinery or apparatus for tilting barrels.
CHILDS, AUGUSTUS BRYANT -	371	9th Feb. 1870	Machinery for cleaning, scouring and decorticating wheat and other kind of grain, and also for hulling, cleaning and polishing rice.
CHILDS, DAVID MONROE -	1003	6th April 1870	Sash fasteners. (*Communicated by Edward Blythe.*)
CHILDS, DAVID MONROE -	2541	22nd Sept. 1870	Sharpening and polishing sewing-machine needles. (*Communicated by Eduardo E. Blyth.*)
CHILDS, DAVID MONROE -	2705	13th Oct. 1870	Improvements in the mode of training hops, the sockets for the poles or posts of the same and other posts, applicable also for the boring for water. (*Communicated by Eduardo Blythe.*)
CHILDS, WILLIAM - - -	2533	21st Sept. 1870	Machinery for skiving and cutting leather for the manufacture of boots and shoes. (*Patented by William John Barron and Edmund Charles Barron.*)
CHINNOCK, GEORGE HOSTELL	2051	20th July 1870	Toilet and other mirrors. (*Patented by William Edward Newton.*)
CHIVERTON, EDMUND - -	2361	29th Aug. 1870	Improved means of and apparatus for lighting gas lamps.
CHOATE, SILVANUS FREDERICK [VAN.	1801	24th June 1870	Distilling alcoholic liquors.
CHOUSY, ALFRED DIDIER MA- [RIE MESNARD VISCOUNTE DE.	580	26th Feb. 1870	An improved process for converting human excrement into fuel and manure.
CHRIMES, JOSEPH - - -	963	2nd April 1870	Means or arrangements for the safety and convenience of railway passengers.
CHRIMES, JOSEPH - - -	2973	12th Nov. 1870	An improvement in constructing railway carriages and other road vehicles, to insure further ease and safety in travelling.
CHRISTIE, JAMES - - -	1248	2nd May 1870	Machinery or apparatus for cutting or shearing, and ripping and clipping the "whip" of lappet cloth or other fabrics.
CHURCHILL, CHARLES - -	1361	12th May 1870	An improved window-fastener. (*Communicated by William L. Clark.*)
CLARANCE, CHARLES - -	1621	4th June 1870	Breech-loading fire-arms.
CLARIDGE, THOMAS - -	869	24th March 1870	Improvements in the manufacture of armour plates and in the machinery or apparatus employed in such manufacture.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CLARK, ADOLPHUS - - -	102	12th Jan. 1870	Machines for bottling soda-water and other gaseous or effervescing liquids. (*Partly communicated by Gustavus Davis Dows.*)
CLARK, ALEXANDER MELVILLE	69	8th Jan. 1870	Improvements in spring seats, chairs and mattresses, such improvements being also applicable to other purposes. (*Communicated by Pierrè Gustave Nourisse.*)
CLARK, ALEXANDER MELVILLE	130	15th Jan. 1870	Improvements in wooden pavements and in cutting the blocks therefor. (*Communicated by William Wilmot Ballard.*)
CLARK, ALEXANDER MELVILLE	193	21st Jan. 1870	Improvements in the manufacture of chains and chain cables, and in machinery for the same. (*Communicated by Augustin Onésime David.*)
CLARK, ALEXANDER MELVILLE	207	22nd Jan. 1870	An improved electro-motor for sewing-machines. (*Communicated by Gustave Henry Dervieu.*)
CLARK, ALEXANDER MELVILLE	265	28th Jan. 1870	An improved machine to be used in currying leather. (*Communicated by Césaire Renard.*)
CLARK, ALEXANDER MELVILLE	322	3rd Feb. 1870	Printing presses. (*Communicated by Merritt Gally.*)
CLARK, ALEXANDER MELVILLE	520	22nd Feb. 1870	Improvements in combination tools, which improvements are also partly applicable to scissors, pliers and such like instruments. (*Communicated by Emile Granièr.*)
CLARK, ALEXANDER MELVILLE	533	23rd Feb. 1870	Machinery for making horse-shoe nails. (*Communicated by Daniel Dodge.*)
CLARK, ALEXANDER MELVILLE	535	23rd Feb. 1870	Apparatus for binding together or filing papers. (*Communicated by Claude Morey, Nicholas Alphonse Aubertin, the younger, and François Motte.*)
CLARK, ALEXANDER MELVILLE	583	26th Feb. 1870	Improvements in the manufacture of wrought metal wheels and in machinery for the same. (*Communicated by Claude Brunon, Barthélemy Brunon and Gabriel Brunon.*)
CLARK, ALEXANDER MELVILLE	605	1st March 1870	Railway carriage wheels. (*Communicated by Hiram Washington Moore, Francis Bloodgood, Charles Boughton Wood and Frederick Wood.*)
CLARK, ALEXANDER MELVILLE	606	1st March 1870	Manufacture of artificial flowers and foliage. (*Communicated by Octave Eugène Fillion.*)
CLARK, ALEXANDER MELVILLE	664	5th March 1870	Application of power for the propulsion of vehicles on common roads or railways, and in apparatus connected therewith. (*Communicated by Henri Adolphe Corbin.*)
CLARK, ALEXANDER MELVILLE	797	17th March 1870	Improvements in moulds used in stereotyping and in apparatus for producing the same. (*Communicated by Hippolyte Auguste Marinoni.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CLARK, ALEXANDER MELVILLE	897	26th March 1870	Rotary printing machines. (*Communicated by Jesse Bailey Brown.*)
CLARK, ALEXANDER MELVILLE	994	5th April 1870	Apparatus for washing and treating pulps. (*Communicated by Louis Joseph Amedeé Lespermont.*)
CLARK, ALEXANDER MELVILLE	1158	20th April 1870	Shirt fronts and cuffs. (*Communicated by Effingham Howard Nichols Warner.*)
CLARK, ALEXANDER MELVILLE	1270	3rd May 1870	Traction and locomotive engines. (*Communicated by James K. Lake.*)
CLARK, ALEXANDER MELVILLE	1273	3rd May 1870	Steam carriages for common road locomotion. (*Communicated by Jean Baptiste Gabriel Marie Fréderic Piret.*)
CLARK, ALEXANDER MELVILLE	1438	18th May 1870	Machines for manufacturing cigars. (*Communicated by the American Cigar Machine Company.*)
CLARK, ALEXANDER MELVILLE	1456	19th May 1870	Apparatus for the production of gases for lighting and heating purposes. (*Communicated by Xavier Moussard.*)
CLARK, ALEXANDER MELVILLE	1519	25th May 1870	Machinery for cutting wood screws and slot bolts. (*Communicated by Louis André de Coster, Joseph Michel Melany and Edward Casper.*)
CLARK, ALEXANDER MELVILLE	1566	28th May 1870	Improvements in machinery for corrugating and moulding sheet metal, which improvements are also applicable for other purposes. (*Communicated by Asa Johnson and William Thornton Still.*)
CLARK, ALEXANDER MELVILLE	1594	1st June 1870	An improvement in machines for working and preparing peat for fuel. (*Communicated by Charles Luxton.*)
CLARK, ALEXANDER MELVILLE	1748	18th June 1870	Improvements in bells and in the mode of hanging the same. (*Communicated by Auguste Laroÿe.*)
CLARK, ALEXANDER MELVILLE	1755	18th June 1870	Improvements in apparatus for raising sunken bodies and in the mode of operating the same. (*Communicated by Amédée Mouillard.*)
CLARK, ALEXANDER MELVILLE	1843	28th June 1870	Steam generators. (*Communicated by Henry Petitpierre.*)
CLARK, ALEXANDER MELVILLE	1866	1st July 1870	Improvements in the production of ice and in apparatus for the same. (*Communicated by Mr. Koehler.*)
CLARK, ALEXANDER MELVILLE	1918	7th July 1870	Smoothing irons. (*Communicated by Théophile Klaus, Johannes Reuger and Georges Rüger.*)
CLARK, ALEXANDER MELVILLE	2214	9th Aug. 1870	An improvement in wood pavement. (*Communicated by William Wilmot Ballard.*)
CLARK, ALEXANDER MELVILLE	2250	12th Aug. 1870	Knitting-machines. (*Communicated by John Lee, Mark Lee and William Carter.*)
CLARK, ALEXANDER MELVILLE	2381	31st Aug. 1870	Apparatus to be applied for operating sewing and other machines. (*Communicated by Edward Jenner Leyburn.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CLARK, ALEXANDER MELVILLE	2402	2nd Sept. 1870	Looms for weaving hats. (*Communicated by John Van Dussen Reed.*)
CLARK, ALEXANDER MELVILLE	2537	21st Sept. 1870	Rolling mills. (*Communicated by David Isaac Jones.*)
CLARK, ALEXANDER MELVILLE	2890	2nd Nov. 1870	Apparatus for producing and applying motive-power. (*Communicated by John Madison Cayce, and Wiley Blount Barfield and James McEwen.*)
CLARK, ALEXANDER MELVILLE	2907	3rd Nov. 1870	Breech-loading fire-arms and cartridges. (*Communicated by Paul Ganidel.*)
CLARK, ALEXANDER MELVILLE	2908	3rd Nov. 1870	An improved means of advertising. (*Communicated by Henry Gustave Adrien Pécoul.*)
CLARK, ALEXANDER MELVILLE	2934	7th Nov. 1870	An improved machine for cutting and printing lozenges and crackers. (*Communicated by Ernest Greenfield and Philipp Strauss.*)
CLARK, ALEXANDER MELVILLE	2939	8th Nov. 1870	Machinery for manufacturing carpet lining. (*Communicated by Joel Fisher Fales.*)
CLARK, ALEXANDER MELVILLE	3154	1st Dec. 1870	Revolving fire-arms. (*Communicated by Charles John Linberg and William John Phillips.*)
CLARK, ALEXANDER MELVILLE	3214	7th Dec. 1870	Improved life preserving clothing. (*Communicated by Clark Spencer Merriman.*)
CLARK, EDWIN - - -	1296	6th May 1870	Method of constructing piers, breakwaters, wharfs, cofferdams, river and sea walls, and other works in water.
CLARK, GEORGE - - -	922	30th March 1870	Improvements in apparatus and in the means employed for heating, cooling or evaporating liquids, and for condensing vapours.
CLARK, GEORGE - - -	3363	23rd Dec. 1870	Construction and manufacture of percussion caps for the ignition of cartridges.
CLARK, HENRY AUGUSTUS -	2410	3rd Sept. 1870	Improvements in the manufacture of knitted fabrics and in machinery employed therefor. (*Patented by George Haseltine.*)
CLARK, JAMES - - -	2699	12th Oct. 1870	Improvements in rolling iron and other metals, and in machinery or apparatus connected therewith.
CLARK, JAMES RAND - -	1171	22nd April 1870	Machinery for knitting stockings or various other articles. (*Partly communicated by George M. Patten.*)
CLARK, JOHN - - - -	596	1st March 1870	Subdividing particles of water and other fluids and applying the same to sanitary and other purposes.
CLARK, JOHN - - - -	1817	27th June 1870	Radiating the axles of locomotive engines.
CLARK, JOHN MOIR - -	945	31st March 1870	Machinery or apparatus for soldering tin cases or canisters or other similar vessels.
CLARK, JOHN MOIR - -	1230	29th April 1870	Machinery or apparatus for soldering tin cases or canisters or other similar vessels.
CLARK, JOSEPH - - -	278	31st Jan. 1870	Manufacture of muffs, ladies' collars, trimmings and other similar articles.
CLARK, JOSIAH LATIMER -	1861	30th June 1870	Electric telegraph instruments.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CLARK, SAMUEL WILSON -	483	18th Feb. 1870	Hand signal and other lamps.
CLARK, WILLIAM - - -	582	26th Feb. 1870	Governors for steam and other engines.
CLARK, WILLIAM - - -	2764	20th Oct. 1870	Apparatus for winding thread on to bobbins.
CLARK, WILLIAM L. - -	1361	12th May 1870	An improved window fastener. (*Patented by Charles Churchill.*)
CLARK, WILLIAM R. C. -	2951	9th Nov. 1870	Apparatus for effecting and regulating the supply of the deodorizing material in earth closets. (*Patented by William Robert Lake.*)
CLARKE, ADAM ELIJAH - -	2779	21st Oct. 1870	Improvements in and additions to skates. (*Patented by Robert Marsden.*)
CLARKE, EDWARD - - -	1653	8th June 1870	Safety cages for mines and shafts.
CLARKE, ELIZABETH H.- -	2662	7th Oct. 1870	Bows, scarves and similar articles to be worn with collars. (*Patented by George Haseltine.*)
CLARKE, FREDERIC SYDENHAM	2302	20th Aug. 1870	The preservation of gloves from the injuries accruing to them from tropical heat, and for the partial restoration of their colour when faded by wear and exposure.
CLARKE, WILLIAM - - -	2916	4th Nov. 1870	Windlasses.
CLARKE, WILLIAM JOSHUA -	1842	28th June 1870	Manufacture of frames for photographs and other similar objects of art.
CLARKSON, BENJAMIN - -	158	19th Jan. 1870	Scale beams.
CLAUDET, FREDERIC - -	282	31st Jan. 1870	Treatment of cupreous ores containing silver.
CLAUS, CARL FRIEDRICH -	2981	14th Nov. 1870	Improvements in the manufacture of wire, which improvements are also applicable in the manufacture of other metallic articles in the production of which the process of annealing forms a part.
CLAYTON, JOHN - - -	2932	7th Nov. 1870	Machinery for cropping or shearing textile fabrics.
CLAYTON, NATHANIEL - -	3371	24th Dec. 1870	Travelling wheels for road locomotives.
CLAYTON, THOMAS - - -	593	28th Feb. 1870	Apparatus employed to produce inflammable gas from mineral or other oils, modifications of which apparatus are also applicable to be employed in the heating of water or the generation of steam.
CLAYTON, THOMAS - - -	2354	27th Aug. 1870	Apparatus for producing inflammable gas from mineral and other oils, parts of which are applicable for heating purposes.
CLAYTON, WILLIAM ASHLEY -	1721	16th June 1870	Improved combinations of screw propellers and steering apparatus for navigable vessels.
CLEAVER, FREDERICK JOHN -	1418	17th May 1870	Improvements in apparatus for moulding and stamping soap and for other similar purposes, part of such improvements being also applicable to charging and discharging apparatus used in various other manufacturing operations.
CLEGG, ARTHUR - - -	2288	18th Aug. 1870	Sewing-machines.
CLEGG, JOHN - - - -	632	3rd March 1870	Looms for weaving.
CLELAND, WILLIAM - -	1560	28th May 1870	Improved means and apparatus for exhausting, forcing and purifying gas for heating and illuminating purposes.
CLEMESHA, WILLIAM HENRY	842	22nd March 1870	Self-cleansing high-pressure filters for the purification of water.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CLEMITSON, THOMAS - -	2622	3rd Oct. 1870	Manufacture of fuel.
CLEVE, WILLIAM HUNTER [VAN.	2274	17th Aug. 1870	An improved washer for locking screw-nuts on their bolts. (*Patented by William Robert Lake.*)
CLEWS, FREDERICK - -	3155	1st Dec. 1870	A new or improved top.
CLEWS, JOHN - - - -	3155	1st Dec. 1870	A new or improved top.
CLINCH, CHARLES - - -	1029	7th April 1870	Apparatus for "cleansing" beer and other fermentable liquids.
CLIVE, JOSEPH CHARLES -	3271	14th Dec. 1870	Connecting or attaching handles to coffins and other articles.
CLOUGH, WILLIAM - - -	2432	8th Sept. 1870	Machinery or apparatus for tilting barrels.
COCHRAN, ALEXANDER - -	77	11th Jan. 1870	Improved apparatus for discharging water from steam pipes.
COCHRAN, ALEXANDER - -	1502	24th May 1870	Improved apparatus for discharging water from steam pipes.
COCHRANE, ALEXANDER -	1941	8th July 1870	Giving motion to ships and other floating bodies.
COCHRANE, ARTHUR AUCK- [LAND.	3197	5th Dec. 1870	A new shield for military purposes.
COCHRANE, CHARLES - -	34	5th Jan. 1870	Regenerative hot blast stoves for heating air, steam and other gases.
COCHRANE, CHARLES - -	176	20th Jan. 1870	Improvements in the preparation of iron ores for smelting and in kilns or furnaces employed for that purpose.
COCHRANE, HARRY HERBERT	12	3rd Jan. 1870	Machinery or apparatus for working signals and switches on railways.
COCKBURN, WILLIAM, the elder	18	3rd Jan. 1870	Improvements in horse-shoes and in appliances to be worn therewith.
COCKBURN-MUIR, WILLIAM [JOHN.	2952	9th Nov. 1870	Permanent way or track of tramways.
CODD, HIRAM - - - -	3070	24th Nov. 1870	Improvements in bottles and in the mode of stopping or closing the same.
COES, AURY GATES - -	297	1st Feb. 1870	An improved manufacture of wrenches and in machinery connected with the same.
COEVOET AND DAWSON - -	23	4th Jan. 1870	Certain improvements in machines for manufacturing fishing and other nets. (*Patented by Henry Bernoulli Barlow.*)
COFFEY, JOHN AMBROSE -	1973	13th July 1870	Process and apparatus employed for drying and roasting coffee, chicory, malt and other vegetable substances, also applicable to baking and desiccation generally.
COFFIN, EDWARD W. - -	1219	27th April 1870	An improved process for cleaning wool or hair. (*Patented by William Robert Lake.*)
COFIELD, JOSEPH - - -	924	30th March 1870	Fastenings for braces, belts, bands and straps.
COGHILL, HARRY - - -	665	7th March 1870	A certain improvement in potter's glazes.
COHEN, SAMUEL - - -	646	4th March 1870	Waterproof garments.
COHNÉ, SEGISMUND - -	1586	31st May 1870	An improved disinfecting and cleansing powder or saponaceous compound, and vessel to contain the same.
COIT, SAMUEL - - -	59	7th Jan. 1870	Lawn mowing machines. (*Patented by William Robert Lake.*)
COIT, SAMUEL - - -	319	3rd Feb. 1870	An improved friction clutch. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
COIT, SAMUEL - - -	744	14th March 1870	Improved apparatus for indicating a deficiency of water in steam-boilers, and for regulating the supply of water thereto. (*Patented by William Robert Lake.*)
COLBRAN, JOHN BAKER - -	853	23rd March 1870	An improved trap for catching mice, rats and other vermin or animals.
COLBY, HALL - - - -	476	17th Feb. 1870	An improved instrument for determining the altitude and zenith distance of celestial bodies. (*Patented by William Robert Lake.*)
COLEMAN, JOSEPH JAMES -	1752	18th June 1870	Treating or preparing certain lubricating oils.
COLEMAN, JOSEPH JAMES -	3261	13th Dec. 1870	Treating certain mineral lubricating oils and paraffin.
COLEMAN, STEPHEN GANO -	1696	13th June 1870	Rudders for vessels. (*Patented by William Robert Lake.*)
COLEMAN, WILLIAM JUBY -	241	26th Jan. 1870	Treating sour beer to remove its acidity.
COLES, THOMAS - - -	579	26th Feb. 1870	Construction of the running wheels of carriages and other vehicles mounted on wheels, and wheels and riggers used in machinery.
COLES, THOMAS - - -	1370	13th May 1870	Machinery for scutching flax and other fibres.
COLLAS, PETER - - -	2679	10th Oct. 1870	Improvements in stoppers for bottles and in the means of securing stoppers in bottles.
COLLET, DANIEL - - -	1770	21st June 1870	A new or improved bleaching agent, also applicable for other purposes, together with the mode of and apparatus for producing the same.
COLLETT, CATHRINUS NICOLAY ARBO.	1246	30th April 1870	Counting machines. (*Communicated by Axel Petersson.*)
COLLINS, GEORGE HENRY -	2358	27th Aug. 1870	An improved sewing-machine attachment for manufacturing tubing or piping for ornamenting dresses and for other like purposes. (*Patented by William Robert Lake.*)
COLLINS, HENRY - - -	296	1st Feb. 1870	A new or improved safety cage for children.
COLLINS, HENRY - - -	443	15th Feb. 1870	Improvements in coal plates whereby they are rendered more suitable for exhibiting advertisements.
COLLINS, JOHN - - -	3012	17th Nov. 1870	Forming or constructing fringes on textile fabrics and in the machinery or apparatus therefor.
COLLINS, ROBERT JOHN - -	1567	28th May 1870	Manufacture of embossed fabrics in imitation of quilting and applicable especially to the making of ornamental petticoats.
COLLINS, SIMON - - -	2738	18th Oct. 1870	Guiding the material for the construction of button-holes on button-hole sewing-machines.
COLLOM, CHARLES FREDERICK	2307	20th Aug. 1870	Means or apparatus for cleaning or dressing metallic ores.
COLLYER, ROBERT HANHAM -	1235	29th April 1870	Machinery for breaking, softening and preparing flax and other fibrous materials.
COLSON, JAMES HENRY PASSINGCOMB.	418	12th Feb. 1870	An improved portable frame for playing billiards upon an ordinary table.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
COLTMAN, THOMAS - -	62	7th Jan. 1870	Machinery or apparatus employed in the manufacture of looped or knitted fabrics.
COMB, JAMES JENNINGS M^{c} -	1257	2nd May 1870	An improved hoisting machine. (*Communicated by Henry Reedy.*)
COMB, MARSHALL M^{c} - -	1345	11th May 1870	Paddle-wheels. (*Patented by William Robert Lake.*)
COMBALUZIER, PIERRE - -	2893	2nd Nov. 1870	Construction of cartridges for chassepots and other similar rifles. (*Communicated by Pierre Marie Fouque.*)
COMBE, JOHN - - - -	1688	11th June 1870	Machinery for winding cops for weft or warp or other purposes.
COMBE, JOHN - - - -	3185	3rd Dec. 1870	Improvements in machinery for winding cops and in shuttles for weaving cops.
COMMON, ANDREW AINSLIE -	368	8th Feb. 1870	Apparatus for regulating the supply of water to waterclosets and wherever a regulated supply may be required.
CONCI, BARTOLAMMEO - -	252	28th Jan. 1870	An improved portable scaffolding.
CONE, JONATHAN - - -	1358	12th May 1870	An improved construction and arrangement of grate bars. (*Patented by John Henry Johnson.*)
CONLONG, JAMES - - -	936	31st March 1870	Looms for weaving.
CONNELL, JOHN - - -	731	11th March 1870	An improved apparatus for the manufacture of sugar. (*Communicated by Wilson Hardy.*)
CONNOR, CHARLES CUMMING-[HAM.	1335	10th May 1870	Apparatus or machinery for making gas from liquid hydrocarbons, for illuminating purposes. (*Patented by William Robert Lake.*)
CONNOR, CHARLES CUNNING-[HAM.	3061	23rd Nov. 1870	Hydro-carbon lighting apparatus chiefly designed for locomotives and signals. (*Patented by William Robert Lake.*)
CONNOR, CHARLES CUNNING-[HAM.	3062	23rd Nov. 1870	Gas regulating apparatus. (*Patented by William Robert Lake.*)
COOK, CHARLES - - -	2737	18th Oct. 1870	Boxes for containing furs and protecting them from the ravages of insects.
COOK, JAMES - - - -	3340	21st Dec. 1870	Machinery or apparatus employed in the cutting or clipping of lace and other fabrics.
COOK, RICHARD - - -	547	24th Feb. 1870	Frames of umbrellas, parasols and sunshades.
COOK, WILLIAM - - -	3345	21st Dec. 1870	An improved weather strip or draught excluder for doors and windows.
COOK, WILLIAM T. - - -	2124	29th July 1870	An improved device for guiding covered wire to be secured upon a fabric or substance in a sewing-machine. (*Patented by Thomas Andrew Vyse, junior.*)
COOKE, CHARLOTTE - -	1146	19th April 1870	An improved combination of articles used for culinary purposes. (*Communicated by Sydney Cooke.*)
COOKE, GEORGE COLLETON -	1129	18th April 1870	Certain improvements in apparatus used for scoring or recording numbers.
COOKE, GEORGE WHITEUS -	1174	22nd April 1870	Mode of securing ridges of slate or other material to the roofs of buildings.
COOKE, HENRY D. junior -	3215	7th Dec. 1870	An improved construction of cartridge box. (*Patented by Alfred Vincent Newton.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
COOKE, JOHN - - - -	3244	10th Dec. 1870	Application of engine and other power to duplicate machines connected by a side rod.
COOKE, SYDNEY - - -	1146	19th April 1870	An improved combination of articles used for culinary purposes. (*Patented by Charlotte Cooke.*)
COOKE, SYDNEY - - -	2119	28th July 1870	A new or improved apparatus for stretching and nailing carpets, applicable also to other useful purposes. (*Patented by William James Schlesinger.*)
COOKE, SIR WILLIAM FOTHERGILL, Knight.	1202	26th April 1870	Stone-cutting apparatus.
COOMBES, FRANCIS - - -	2370	30th Aug. 1870	Stoppers for bottles, jars, casks and other vessels, and tubes and implements connected therewith.
COON, WILLIAM SPENCER -	1075	12th April 1870	An improved method of and apparatus for applying power to the running of machinery and tools, whereby such machinery or tools may be adjusted to any desired angle in use.
COOPER, ALMOND FRANKLIN -	2055	21st July 1870	Wheels for railway carriages and other vehicles. (*Patented by William Robert Lake.*)
COOPER, ARTHUR - - -	2290	19th Aug. 1870	An improved ventilating roller window blind.
COOPER, BENJAMIN - -	1530	26th May 1870	Looms for weaving.
COOPER, FREDERICK - -	2962	10th Nov. 1870	Looms for weaving.
COOPER, JOHN - - -	2962	10th Nov. 1870	Looms for weaving.
COOPER, LEONARD - - -	2624	3rd Oct. 1870	Machinery and apparatus for transporting passengers, goods and other articles. (*Communicated by Myles Cooper.*)
COOPER, MYLES - - -	2624	3rd Oct. 1870	Machinery and apparatus for transporting passengers, goods and other articles. (*Patented by Leonard Cooper.*)
COOPER, THOMAS - - -	2962	10th Nov. 1870	Looms for weaving.
COOPER, WILLIAM - - -	1040	8th April 1870	Sliver or cotton cans.
COOPER, WILLIAM BIRCH -	916	29th March 1870	"Temples" employed in looms for weaving.
COPE, EZRA - - - - -	1413	17th May 1870	Steam pumping or blowing engines. (*Patented by Martin Benson.*)
COPE, JAMES - - - -	1550	27th May 1870	An improvement in steam-engines.
COPPARD, JOHN - - -	3161	2nd Dec. 1870	Constructing portable folding furniture and self-tilting and folding cask stands.
CORBETT, SAMUEL - - -	1881	2nd July 1870	Machines or apparatus for cutting and pulping turnips and other vegetables.
CORBETT, THOMAS - - -	1841	28th June 1870	Ploughs.
CORBIN, HENRI ADOLPHE -	664	5th March 1870	Application of power for the propulsion of vehicles on common roads or railways, and in apparatus connected therewith. (*Patented by Alexander Melville Clark.*)
CORE, JAMES EDMONSTON -	545	24th Feb. 1870	Kilns or ovens for burning or baking bricks, tiles or other articles of plastic material, and lime.
CORKINDALE, DOUGALD MC -	3282	15th Dec. 1870	Puddling, heating and other furnaces.
CORMICK, CYRUS HALL MC -	932	30th March 1870	Machines for reaping and mowing. (*Patented by Thomas James Smith.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Cormick, James Mc - -	1886	10th May 1870	Process of brewing ale and other malt liquors. (*Patented by William Robert Lake.*)
Cory, George Nicholas -	929	30th March 1870	Concertinas and accordions. (*Communicated by Reinhard Doerfel.*)
Coster, Louis André De -	1519	25th May 1870	Machinery for cutting wood screws and slot bolts. (*Patented by Alexander Melville Clark.*)
Cottam, Edward - - -	30	4th Jan. 1870	Machinery for rolling bars for the manufacture of shoes for horses and other hoofed animals.
Cottam, Edward - - -	120	14th Jan. 1870	Pipes for smoking.
Cottam, Louis le Chevalier	1910	6th July 1870	Construction of spiral staircases.
Cotton, Charles - - -	918	29th March 1870	Machinery for the manufacture of knitted fabrics.
Cotton, Isaac - - -	2894	3rd Nov. 1870	Machinery for grinding, particularly applicable for grinding gold and other expensive colors used by potters and others.
Cotton, William - - -	1105	14th April 1870	Improvements in the manufacture of looped or knitted fabrics and in the machinery or apparatus employed therein.
Coulter, James - - -	2874	1st Nov. 1870	Improved means or machinery for indigo-blue dyeing.
Coulter, James - - -	3223	8th Dec. 1870	Improved means or machinery for indigo-blue dyeing.
Couper, James, the younger -	2529	20th Sept. 1870	Improvements in lamps and in the construction of lenses and reflectors.
Courtice, James Leyster -	3353	22nd Dec. 1870	Improvements in that class of musical instruments called "American organs."
Courtis, Henry - - -	2487	15th Sept. 1870	An improved means of attaching handles to scoops and other articles. (*Patented by John Courtis.*)
Courtis, John - - -	2487	15th Sept. 1870	An improved means of attaching handles to scoops and other articles. (*Communicated by Henry Courtis.*)
Cousins, John James - -	2587	29th Sept. 1870	Improved apparatus for indicating and registering pool and other games of skill, and indicating the amount of money paid by the players for the use of the table.
Coutelet, Louis Alexis -	461	17th Feb. 1870	Reaping and mowing machines. (*Patented by Bristow Hunt.*)
Covert, Hiram Cornelius -	3065	23rd Nov. 1870	Improvements in brushes and in machinery for manufacturing the same. (*Patented by Alfred Vincent Newton.*)
Cowan, William - - -	685	8th March 1870	Dry gas meters.
Cowles, Edward - - -	2078	23rd July 1870	Improvements in the manufacture of candles and in machinery or apparatus employed for that purpose.
Cowley, William - -	1976	13th July 1870	Apparatus for pumping and forcing air and other fluids, and which apparatus is peculiarly applicable to desiccating, the ventilation of mines, buildings, ships and other structures, and for blast and other purposes.
Cowper, Edward Alfred -	34	5th Jan. 1870	Regenerative hot blast stoves for heating air, steam and other gases.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Cox, John Axtell Deacon -	164	19th Jan. 1870	An improved vehicle or composition to be mixed with white lead and other pigments in lieu of linseed or boiled oil, turps and dryers, to form paint.
Crabtree, James - - -	3312	19th Dec. 1870	Looms for weaving.
Cracken, Edwin Dodd Mc -	2083	23rd July 1870	Apparatus for the manufacture of gas. (*Patented by William Edward Newton.*)
Cracken, Edwin Dodd Mc -	2642	5th Oct. 1870	Working of galvanic batteries (*Patented by Alfred Vincent Newton.*)
Craddock, Edward - -	1184	23rd April 1870	An improved portable apparatus for generating illuminating gas.
Craddock, Joseph - -	2129	29th July 1870	Improvements in the manufacture of lockets, which said improvements are also applicable to miniature brooches and bracelets.
Craig, Allan - - -	1043	8th April 1870	Mills for grinding and pulverising mineral or other substances.
Craig, William - - -	3049	21st Nov. 1870	Condensers for steam pumps. (*Patented by Alfred Vincent Newton.*)
Crampton, Thomas Russell	2600	30th Sept. 1870	Furnaces suitable for melting and heating metals and for other purposes.
Craven, John - - -	1115	16th April 1870	Machinery or apparatus for raising and lowering heavy bodies.
Craw, William Mc - -	941	31st March 1870	Improvements in photography by processes which combine printing, painting and transferring, for the production of chromo-photographs.
Crawford, Timothy Reed -	2863	31st Oct. 1870	An improved silicious compound applicable for the manufacture of pipes, tiles, bricks and other articles for buildings, also for paths, floors, roofs and other analogous purposes. (*Patented by William Edward Newton.*)
Crawley, Charles Edward	2543	22nd Sept. 1870	Construction of tunnels and tubes.
Cready, Thomas Lawrence [M'.	3153	1st Dec. 1870	Apparatus for giving danger and other signals, and for delivering mail bags and parcels to and from railway engines and trains in motion.
Cree, James Mc - - -	1786	23rd June 1870	Construction of boxes or cases for containing eggs, glass, crockery or other articles requiring to be packed separately. (*Patented by William Spence.*)
Cree, William Mc - -	3364	24th Dec. 1870	Improvements in heating, drying and evaporating, and in apparatus to be used therein.
Cree, William Mc - -	3399	30th Dec. 1870	Improvements in deodorizing and purifying sewage, urine and refuse matters and liquids, and in making manure therefrom, and in apparatus for those purposes.
Crespin, Elie Adolphe -	1128	18th April 1870	Manufacture of hats. (*Patented by William Spence.*)
Creswick, Wilfred - -	2058	21st July 1870	Apparatus for lubricating the axles of colliery "corves" or "tubs" when in motion.
Crockett, Henry James -	1929	7th July 1870	Window sash and casement fasteners.
Crombleholme, William -	522	23rd Feb. 1870	Apparatus for connecting and disconnecting railway carriages and trucks.
Crompton, George - -	1048	9th April 1870	Looms. (*Patented by Alexander Horace Brandon.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Crompton, George - -	2636	5th Oct. 1870	Improvements in Brussels and in tapestry carpets. (*Patented by John Garrett Tongue.*)
Crompton, George - -	3059	22nd Nov. 1870	Looms for weaving Brussels carpeting. (*Patented by John Garrett Tongue.*)
Crook, Henry - - -	2839	28th Oct. 1870	Manufacture of umbrellas.
Croom, Alexander - -	2566	26th Sept. 1870	An improved machine for cutting paper-hangings.
Crosby, J. B. - - - - -	8	1st Jan. 1870	Improvements in harness for draught animals and in connecting and disconnecting devices to be used therewith. (*Patented by William Robert Lake.*)
Crosland, James Stead -	2818	27th Oct. 1870	Steam-boilers or generators.
Cross, Christopher - -	1195	25th April 1870	Machinery or apparatus for separating and sorting cotton or other fibrous substances.
Cross, James - - - - -	880	25th March 1870	Apparatus for propelling vessels.
Cross, Joseph - - -	109	13th Jan. 1870	Construction of the frames of umbrellas and parasols.
Crossley, Christopher -	375	9th Feb. 1870	Improvements in the manufacture of size, and in the application of a certain material for conditioning cotton and other fibrous substances.
Crossley, Christopher -	1020	7th April 1870	Manufacture of size.
Crossley, John - - -	1957	11th July 1870	Looms for weaving.
Crossley, Thomas - -	375	9th Feb. 1870	Improvements in the manufacture of size, and in the application of a certain material for conditioning cotton and other fibrous substances.
Crossley, Thomas - -	1020	7th April 1870	Manufacture of size.
Crouzières, Jules - -	1342	11th May 1870	An improved gas and water-tight joint to pipes and tubes.
Crowhurst, Anthony Morris	1021	7th April 1870	An improved spring clip file or binder. (*Patented by Thomas Adams.*)
Crowhurst, Anthony Morris	1022	7th April 1870	Improved means for binding music, pamphlets and other papers. (*Patented by Thomas Adams.*)
Crowther, Herbert - -	612	2nd March 1870	Apparatus for turning over the leaves of music-books, which apparatus is applicable to pianofortes, organs, harmoniums, music-stands and similar articles.
Cruickshank, William -	1810	25th June 1870	An improved arrangement and construction of portable bath.
Cryer, Joseph - - -	112	13th Jan. 1870	An improved means or method of exhibiting names, photographs, views, designs or sketches in monuments, door or other knobs, boxes, walking-sticks, umbrellas and various other articles.
Cuerdale, John - - -	2858	31st Oct. 1870	Mules for spinning.
Culley, Samuel Hall - -	3107	26th Nov. 1870	Improvements in deodorizing and treating sewage and in apparatus to be employed for this purpose.
Culmer, William Thurston	852	23rd March 1870	A new or improved mode of manufacturing brushes.
Cundy, Thomas - - -	3127	29th Nov. 1870	Construction of cramps used by carpenters, joiners, builders and others.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
CUNNINGHAM, WILLIAM -	3026	18th Nov. 1870	Lubricating apparatus for upright and other runners and bearings.
CUNNINGHAM, WILLIAM [GEORGE.	73	10th Jan. 1870	A machine or apparatus for cleaning and polishing boots and shoes.
CUNNINGHAM, WILLIAM JOHN	1776	22nd June 1870	Means and apparatus for cutting type, and carving, moulding and ornamenting wood, metal, stone and other materials.
CURRIE, PETER - - -	169	19th Jan. 1870	Improvements in combined hat and coat hooks, and in single hat and coat hooks or pegs.
CURRIER, JOHN WILLIAM -	244	27th Jan. 1870	Mode of connecting traces to carriages.
CURTIN, EDWARD JOSEPH -	2114	28th July 1870	Steam-pressure gauges.
CURTIS, CHARLES JOHN - -	1992	14th July 1870	An improved fire-proof composition for safes and other depositories.
CURTIS, HENRY EDWARD -	1216	27th April 1870	Construction of oscillating cylinder engines.
CURTIS, HENRY EDWARD -	1234	29th April 1870	Improved machinery for cutting slate, marble and other like materials.
CUSHION, JAMES CHARLES -	858	23rd March 1870	Mill bills or chisels and picks for dressing millstones, marble or other stones.
CUSSONS, GEORGE, junior -	3247	12th Dec. 1870	A new application of a vegetable fibre to purposes for which feathers or feather down have heretofore been used.
CUTHELL, ALEXANDER - -	3007	17th Nov. 1870	Improved apparatus for cleaning and scouring.
CUTTING, ROBERT CHARLES -	372	9th Feb. 1870	Marine and other compasses.

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DABB, ALPHONSO - - -	1776	22nd June 1870	Means and apparatus for cutting type, and carving, moulding and ornamenting wood, metal, stone and other materials.
DACK, WILLIAM NATHAN -	3176	3rd Dec. 1870	Certain improvements in engines worked by steam and other elastic fluids, and in valves.
DAFT, THOMAS BARNABAS -	2543	22nd Sept. 1870	Construction of tunnels and tubes.
DALE, RICHARD SAMUEL -	216	24th Jan. 1870	Preparing coloring matters.
DALE, THOMAS - - -	1091	13th April 1870	Apparatus for extinguishing fires in warehouses, houses, mills, factories, chemical works, public buildings, ships and other structures.
DALGLISH, DAVID - - -	405	11th Feb. 1870	Looms for weaving.
DALLISON, JOHN KNOX - -	2736	18th Oct. 1870	A new or improved leaf-guard and book-mark.
DALLMEYER, JOHN HENRY -	2750	19th Oct. 1870	Opera glasses, field glasses and other Galilean telescopes.
DALLON, JOSEPH EDWARD -	2477	14th Sept. 1870	An improved fastening for garments and other articles or purposes. (*Patented by William Edward Newton.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
DANCHELL, FREDERICK LUDE-[WIG HAHN.	2714	14th Oct. 1870	Certain improvements in the mode of and apparatus for charring wood, peat, bones and other vegetable and animal matters.
DANCHELL, FREDERICK LUDE-[WIG HAHN.	3268	14th Dec. 1870	Machinery for excavating and preparing peat.
DANCHELL, FREDERICK LUDE-[WIG HAHN.	3269	14th Dec. 1870	Apparatus for treating sewage matter and for filtering sewage and other water.
DANDO, WILLIAM ELBERT -	2659	7th Oct. 1870	An improved mode of and apparatus for advertising and distributing business cards and circulars.
DANGERFIELD, JOSEPH - -	2756	20th Oct. 1870	Machinery for the manufacture of toilet or dress pins and other pins.
DANGERFIELD, WILLIAM -	1334	10th May 1870	Walking-sticks and sticks for umbrellas, parasols and other analogous articles.
DANIEL, EMILE - - -	1030	7th April 1870	An improved apparatus for indicating the water-level in steam-boilers.
DANIELL, WILLIAM - -	1364	13th May 1870	An improved electro-magnetic engine.
DANKS, SAMUEL - - -	2397	2nd Sept. 1870	Rotary puddling furnaces. (*Patented by George Haseltine.*)
DARBY, STEPHEN - - -	2312	22nd Aug. 1870	Manufacture of fluid meat.
DARGUE, JOHN - - -	1548	27th May 1870	Machinery or apparatus employed in the process of bleaching, scouring, dyeing and sizing warps or yarns and fabrics.
DARGUE, WILLIAM - - -	1548	27th May 1870	Machinery or apparatus employed in the process of bleaching, scouring, dyeing and sizing warps or yarns and fabrics.
DARIER, EUGINE - - -	492	19th Feb. 1870	Machinery for engine turning or engraving metallic or other surfaces. (*Patented by Ernest Hill.*)
DARLEY, WILLIAM - - -	619	2nd March 1870	Ships' illuminators or scuttles.
DARRACH, SAMUEL A. - -	887	26th March 1870	Machinery or apparatus for heating and delivering metal bars. (*Patented by Albert Angell.*)
DARTRIN, CHARLES FELIX DE	778	16th March 1870	Revolving fire-arms. (*Patented by Henry Woodcroft Hammond.*)
DARTEIN, CHAS. FELIX DE -	1652	8th June 1870	Cartridges. (*Patented by Henry Woodcroft Hammond.*)
DARTEIN, JULES EDOUARD DE	778	16th March 1870	Revolving fire-arms. (*Patented by Henry Woodcroft Hammond.*)
DARTEIN, JULES EDOUARD DE	1652	8th June 1870	Cartridges. (*Patented by Henry Woodcroft Hammond.*)
DAUBIÉ, JEAN BAPTISTE AU-[GUSTE.	188	21st Jan. 1870	A new or improved process for cleansing, drawing and turning wire. (*Patented by Thomas James Smith.*)
DAVENPORT, JAMES, senior -	316	3rd Feb. 1870	A new or improved riddle specially adapted for cleansing and assorting potatoes.
DAVEY, HENRY MATTHEWS -	2035	19th July 1870	Steam-boilers.
DAVEY, HENRY THOMAS -	1763	21st June 1870	Apparatus for washing and boiling linen and other fabrics.
DAVID, AUGUSTIN ONÉSIME -	193	21st Jan. 1870	Improvements in the manufacture of chains and chain cables, and in the machinery for the same. (*Patented by Alexander Melville Clark.*)
DAVIDSON, JAMES - - -	2986	14th Nov. 1870	Improved machinery or apparatus for the manufacture of gunpowder.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
DAVIES EDWARD - - -	2407	3rd Sept. 1870	Certain improvements in apparatus or mechanism known as the "silk bolter" employed for dressing flour, and which may also be employed for dressing other ground or pulverized material.
DAVIES, GEORGE COLIN - -	1847	29th June 1870	Wood screws.
DAVIES, GEORGE COLIN - -	3381	28th Dec. 1870	Improvements in wood screws and in machinery employed in the manufacture thereof. (*Patented by John Thomson King.*)
DAVIES, JOHN LACEY - -	3369	24th Dec. 1870	Certain improvements in the method of preparing and in the means of producing and printing musical notation, and the words, signs, marks and devices employed therewith.
DAVIES, JOHN STOREY - -	908	28th March 1870	Looms for weaving.
DAVIES, JOHN STOREY - -	2234	11th Aug. 1870	Certain improvements in looms for weaving.
DAVIES, JOSEPH - - - -	2597	30th Sept. 1870	Heating and evaporating of brine in the manufacture of salt.
DAVIS, JAMES - - -	798	17th March 1870	Improvements in the construction of two-furrow ploughs and in other tilling implements.
DAVIS, JAMES - - -	1084	13th April 1870	Improved means for working railroad switches. (*Patented by Alfred Vincent Newton.*)
DAVIS, RICHARD HOLDEN -	2715	14th Oct. 1870	Packages or receptacles for sulphuric acid.
DAVIS, THOMAS SHORT - -	616	2nd March 1870	An improved alloy or metallic compound applicable for the bearings or the lining of bearings of machinery.
DAVIS, WILLIAM NASH - -	798	17th March 1870	Improvements in the construction of two-furrow ploughs, and in other tilling implements.
DAVISON, WILLIAM - -	370	8th Feb. 1870	An improved composition for preventing the fouling of iron and other ships' bottoms, and for preserving metal and other surfaces.
DAVY, CHARLES - - -	534	23rd Feb. 1870	Improvement applicable to picks and other tools or implements attached to handles.
DAWES, WILLIAM - - -	2871	1st Nov. 1870	Steam-engines.
DAWSON, GEORGE FREDERICK	2967	11th Nov. 1870	Improvements in or applicable to machinery for spinning or twisting fibrous substances.
DAWSON, JOHN - - -	199	22nd Jan. 1870	Raising gigs used in the process of raising the nap of woollen cloth or other fabrics.
DAWSON, JOHN - - -	460	16th Feb. 1870	Glass and other furnaces.
DAWSON, MARK - - -	2967	11th Nov. 1870	Improvements in or applicable to machinery for spinning or twisting fibrous substances.
DAWSON, RICHARD PUDSEY -	2830	27th Oct. 1870	Slide rests for producing geometrical figures and designs.
DAWSON, STEPHEN - - -	2407	3rd Sept. 1870	Certain improvements in apparatus or mechanism known as the "silk bolter" employed for dressing flour, and which may also be employed for dressing other ground or pulverized material.
DAWSON, THOMAS - - -	2990	15th Nov. 1870	An improved construction of fire-igniter.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Dawson and Coevoet - -	23	4th Jan. 1870	Certain improvements in machines for manufacturing fishing and other nets. (*Patented by Henry Bernoulli Barlow.*)
Day, Austin Goodyear -	2327	24th Aug. 1870	An improved pavement.
Day, St. John Vincent -	3084	24th Nov. 1870	Hydraulic presses for pressing cotton, jute and other fibrous substances. (*Communicated by James Masson and Samuel Hodgert.*)
Day, St. John Vincent -	3111	26th Nov. 1870	Improvements in dressing yarns or warps, and in the mechanism or apparatus employed therefor. (*Communicated by John Hutcheson.*)
Day, Thomas - - - -	3281	15th Dec. 1870	Iron fencing.
De Bay, Charles William [Spruyt.	2639	5th Oct. 1870	A new movable fort.
De Bergue Charles - -	1928	7th July 1870	Machinery for punching metal.
De Blende, Henri Cor- [neille.	2259	13th Aug. 1870	Preparation of lubricating oil.
De Carvalho Trajano [Augusto.	1492	23rd May 1870	Ships and vessels.
De Chousy, Alfred Didier [Marie Mesnard Viscounte.	580	26th Feb. 1870	An improved process for converting human excrement into fuel and manure.
De Coster, Louis André -	1519	25th May 1870	Machinery for cutting wood screws and slot bolts. (*Patented by Alexander Melville Clark.*)
De Dartein, Charles Félix	778	16th March 1870	Revolving fire-arms. (*Patented by Henry Woodcroft Hammond.*)
De Dartein, Chas. Felix -	1652	8th June 1870	Cartridges. (*Patented by Henry Woodcroft Hammond.*)
De Dartein, Jules Edouard	778	16th March 1870	Revolving fire-arms. (*Patented by Henry Woodcroft Hammond.*)
De Dartein, Jules Edouard	1652	8th June 1870	Cartridges. (*Patented by Henry Woodcroft Hammond.*)
De Echeverria, Joseph -	1777	22nd June 1870	An internal spring coupling and brake for transmitting, stopping or regulating motion.
De Ferrari, Paul Charles [Nicolas.	763	15th March 1870	An improved hygienic and mecanical hat.
De Forville, Emile Viaren- [go.	1813	25th June 1870	Velocipedes.
De Hemptinne, Auguste Fer- [dinand.	2975	12th Nov. 1870	Construction of apparatus for concentrating sulphuric acid.
D'Ivernois, Eardley Louis [Charles.	1668	9th June 1870	Magneto-electric machines.
D'Ivernois, Eardley Louis [Charles.	1917	7th July 1870	An improvement in the means for producing electric light.
De la Rue, Ernest - -	1107	14th April 1870	Croquet mallets.
De la Rue, Warren William	892	26th March 1870	Bezique markers.
De la Rue, Warren William	3303	17th Dec. 1870	Whist markers.
De Latouche, Jacques An- [toine Creuzé.	1119	16th April 1870	Construction of revolvers.
De Lavigne Germond - -	791	17th March 1870	The application of cork for preventing loss of heat by radiation and also for protecting bodies against heat.
De Lorière, Charles Ernest	615	2nd March 1870	An improved apparatus for producing rotary motion.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
De Macedo, Joaquim Anto-[nio.	2177	4th Aug. 1870	Obtaining motive-power from a fall of water.
De Michele, Vitale Dome-[nico.	3104	26th Nov. 1870	Apparatus for ascertaining the breaking strain of concrete, cement and other similar blocks or bodies.
De Müller, Auguste - -	1670	9th June 1870	Preparation of corks for rendering them impermeable and to preserve them from decay. (*Patented by Charles Denton Abel.*)
De Navarro, José Francisco	231	25th Jan. 1870	An improved construction of meter for measuring water and other fluids. (*Patented by Alfred Vincent Newton.*)
De Navarro, José Francisco	631	3rd March 1870	Fluid meters. (*Patented by Alfred Vincent Newton.*)
De Navarro, José Francisco	2338	25th Aug. 1870	Liquid meters. (*Patented by Alfred Vincent Newton.*)
De Négrier, Oscar - -	1927	7th July 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdock.*)
De Nègrier, Oscar - -	3108	26th Nov. 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdock.*)
De Negroni, Jean Louis -	958	1st April 1870	Stoppering bottles, jars, pots and analogous recipients.
De Tivoli, Vital - - -	3040	21st Nov. 1870	Ship signals. (*Communicated by Signor Augusto Guattari.*)
De Villeneuve, Abel Hureau	440	15th Feb. 1870	An improved machinery for generating, obtaining and applying motive-power.
De Weweirne, Jean, the younger.	1758	20th June 1870	Dyeing.
Deacon, Benjamin Richard	3016	17th Nov. 1870	Safes or receptacles designed to serve as coal boxes, as show cases for shops and for other like purposes. (*Patented by George Haseltine.*)
Deacon, George Frederick	3017	17th Nov. 1870	Apparatus for automatically supplying fuel to furnaces.
Deacon, Henry - - -	2469	13th Sept. 1870	Apparatus for the manufacture of chlorine.
Deacon, Henry - - -	2476	14th Sept. 1870	Manufacture of bleaching powder by the use of chlorine when diluted with inert gases.
Deacon, Henry - - -	2641	5th Oct. 1870	Manufacture of sulphuric acid.
Deadman, George - -	981	4th April 1870	Horse-shoes.
Deal, George - - -	256	28th Jan. 1870	Construction and application of hot-water boilers, joints and valves.
Dearlove, William Francis	240	26th Jan. 1870	Apparatus for chopping or mincing animal, vegetable and other substances.
Debain, Alexandre Fran-[çois.	2150	2nd Aug. 1870	Manufacture of free-reed musical instruments.
Dee, Henry William - -	590	28th Feb. 1870	Caps for scent and other bottles or vessels.
Dee, Henry William - -	2280	18th Aug. 1870	Improved apparatus for facilitating the withdrawal of liquids from flasks, bottles, jars and other vessels.
Deeley, Isaac - - -	759	15th March 1870	Improvements in the construction of furnaces and in the method of manufacturing malleable and crucible steel and iron.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Deere, John - - - -	2622	3rd Oct. 1870	Manufacture of fuel.
Defontaine, Jean Baptiste [Ernest.	2087	25th July 1870	Dredging machines.
Defries, Daniel Nathan -	2158	2nd Aug 1870	An improvement in the manufacture of gas meters.
Deininger, August - -	2141	1st Aug. 1870	Production of filamentous matter suitable for spinning from sundry plants. (*Patented by Frederick Arthur Paget.*)
Deininger, August - -	2310	22nd Aug. 1870	Production of pulp suitable for the manufacture of paper from wood, straw, grass, and other vegetable matter. (*Patented by Frederick Arthur Paget.*)
Delamare, William Henry	1121	18th April 1870	Machinery for treating cotton seeds.
Delaney, Matthew - -	103	12th Jan. 1870	Billard table cushions. (*Patented by Henry Edward Newton.*)
Deligny, Ernest - - -	943	31st March 1870	Preparation of soluble phosphates of lime. (*Patented by John Henry Johnson.*)
Demailly, Gustave - -	2190	6th Aug. 1870	Improvements in the mode of extracting the filaments of straw and the bark of the mulberry tree, and in converting the same into pulp for the manufacture of paper, and in the apparatus therefor.
Den Bergh, Julius Arnoldus [Ryke Van.	1470	21st May 1870	An improved apparatus for saving property and transmitting messages in cases of disaster at sea.
Dening, Charles - -	567	25th Feb. 1870	An improvement in brushes applied to drills for sowing all kinds of corn and seed.
Dening, Samuel Henry -	567	25th Feb. 1870	An improvement in brushes applied to drills for sowing all kinds of corn and seed.
Denison, William - -	96	12th Jan. 1870	Improvements in steam-engines applicable for marine and other purposes.
Denne, Thomas James -	2464	13th Sept. 1870	Manufacture of casting blocks and printing blocks used for heliographic and other printing.
Dennis, William - -	206	22nd Jan. 1870	Letter boxes, letter pillars and such like depositories.
Denoual, Jules Joseph -	1463	20th May 1870	Enveloping medicinal and other liquids.
Derham, Richard - -	2279	18th Aug. 1870	An improved rotary machine for scraping and washing potatoes and other vegetables, and for cleaning dried fruits.
Dermott, Charles Mc -	1832	27th June 1870	Improvements in pencils for marking on linen and other materials, and in means connected with their use.
Derogy, Eloi Eugene Nar- [cisse.	1694	13th June 1870	Spectacles, eye-glasses and like articles. (*Patented by Michael Henry.*)
Dervieu, Gustave Henry -	207	22nd Jan. 1870	An improved electro-motor for sewing-machines. (*Patented by Alexander Melville Clark.*)
Desborough, Spendlove -	3098	25th Nov. 1870	Improvements in the manufacture of soap and in the chemical compounds applicable to the cure of skin diseases.
Deschamps, Antoine - -	558	25th Feb. 1870	Manufacture of axles and shafts of various descriptions. (*Patented by Henri Adrien Bonneville.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Deschamps, Leon Octave -	1355	12th May 1870	An improved tool for cutting net lace and other like fabrics.
Desgoffe, Jules Auguste -	1649	7th June 1870	Machinery or apparatus for testing strain or pressure applied to solid bodies and for other like purposes. (*Patented by William Robert Lake.*)
Desmolins, Claude Leon -	1239	30th April 1870	Apparatus for breaking and crushing stones for use in macadamizing roads, for railway ballast, for employment in the manufacture of "beton" or French concretion or mortar, and for producing sand or gravel of various degrees of coarseness. (*Patented by Arthur Charles Henderson.*)
Devlan, Patrick Sarsfield	3290	15th Dec. 1870	Springs chiefly designed for railway and other carriages. (*Patented by William Robert Lake.*)
Dewar, James - - -	163	19th Jan. 1870	Treatment of certain substances for manure.
Dewar, James - - -	260	28th May 1870	Treatment of certain substances for food and for manure.
Dewar, James - - -	2151	2nd Aug. 1870	Treatment of certain substances for use as food for animals.
Dewhirst, Joseph - -	1654	8th June 1870	An improved stop motion applicable to machinery or apparatus employed in bleaching, scouring, dyeing, sizing and dressing warps, yarns and fabrics, also in carding and combing wool or other fibrous substances.
Dewhirst, Thomas - -	1654	8th June 1870	An improved stop motion applicable to machinery or apparatus employed in bleaching, scouring, dyeing, sizing and dressing warps, yarns and fabrics, also in carding and combing wool or other fibrous substances.
Dewhirst, William - -	1654	8th June 1870	An improved stop motion applicable to machinery or apparatus employed in bleaching, scouring, dyeing, sizing and dressing warps, yarns and fabrics, also in carding and combing wool or other fibrous substances.
Dexter, Andrew Jackson -	523	23rd Feb. 1870	Springs for carriages and other purposes. (*Patented by William Edward Newton.*)
Dibbin, Henry Arthur -	3203	6th Dec. 1870	Signalling on railways.
Dick, Charles James Adolphus.	3402	31st Dec. 1870	Preventing incrustation in and corrosion of steam-boilers and other vessels. (*Patented by Edward Primerose Howard Vaughan.*)
Dick, George Alexander -	1352	11th May 1870	Construction of and methods of working gas-engines. (*Patented by Edward Primerose Howard Vaughan.*)
Dick, George Alexander -	2939	10th Nov. 1870	Improvements in the construction of and in the methods of working gas-engines. (*Patented by Edward Primerose Howard Vaughan.*)
Dick, Robert - - -	272	31st Jan. 1870	New or improved modes and means of covering and insulating the wires of electric telegraphs.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
DICKINS, THOMAS - - -	1112	16th April 1870	Machinery for spinning, twisting, doubling and throwing silk and other fibrous substances.
DICKINSON, ALFRED - -	892	26th March 1870	Bezique markers.
DICKSON, ALFRED - - -	543	24th Feb. 1870	Improvements in the manufacture of "pressed leather" and in machinery employed for this purpose.
DIEULAFOY, GEORGES - -	640	4th March 1870	An improved apparatus for subcutaneous extractions and injections. (*Patented by William Edward Gedge.*)
DIGGLE, JOHN - - - -	1440	19th May 1870	Certain improvements in looms for weaving.
DIGNEY, FRÈRES ET COMPAGNIE	1072	12th April 1870	Telegraphic apparatus. (*Patented by Michael Henry.*)
DIGNEY, FRÈRES ET COMPAGNIE	2688	11th Oct. 1870	Electro-telegraphic apparatus. (*Patented by Michael Henry.*)
DILLON, THOMAS ARTHUR -	2906	3rd Nov. 1870	Improved methods of and apparatus for utilising the waste and spare or live steam, waste and spare heat, and waste and spare momentum of locomotive and other steam-engines.
DIMOCK, IRA - - - - -	1261	3rd May 1870	Machinery for printing upon spools used for holding thread and like materials. (*Patented by Peter Joel Ivsey.*)
DINGEY, FRANCIS - - -	1602	2nd June 1870	Machinery for pulverizing or reducing ores and other hard substances.
DITTRICH, EDWARD - -	2079	23rd July 1870	Manufacture of the reeds employed in looms for weaving.
DIXON, ADAM - - - - -	883	25th March 1870	Improvements in railway or other season tickets and in appliances connected therewith.
DIXON, JAMES - - -	1865	1st July 1870	Manufacture of friction lights.
DIXON, JAMES WILLIS, junior	412	11th Feb. 1870	Machinery for filing.
DIXON, THOMAS - - -	1779	22nd June 1870	Rotary engines.
DOBSON, BENJAMIN - -	1922	7th July 1870	Apparatus for cleaning the fluted and top rollers of machines used in preparing and spinning cotton and other fibrous substances.
DOBSON, WILLIAM - - -	894	26th March 1870	Improved apparatus for cooling liquids.
DODD, JOHN - - - -	1376	13th May 1870	Machinery for spinning and doubling cotton and other fibrous materials.
DODD, JOHN - - - -	1760	21st June 1870	Improvements applicable to reaping and mowing machines.
DODDS, MATTHEW - - -	3010	17th Nov. 1870	Improvements in cork cutting knives or apparatus, applicable also to cutting other substances than cork.
DODGE, DANIEL - - -	533	23rd Feb. 1870	Machinery for making horse-shoe nails. (*Patented by Alexander Melville Clark.*)
DODGEON, JOHN - - -	2232	11th Aug. 1870	Looms for weaving.
DOERFEL, REINHARD - -	929	30th March 1870	Concertinas and accordions. (*Patented by Alexander Stiefbold and George Nicholas Cory.*)
DOLLONE, LOUIS - - -	1751	18th June 1870	Machinery for cutting corks. (*Patented by William Edward Gedge.*)
DOMAILLE, NICHOLAS - -	2679	10th Oct. 1870	Improvements in stoppers for bottles and in the means of securing stoppers in bottles.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
DOMINY, GEORGE - - -	2928	5th Nov. 1870	Improved means of and apparatus for turning over the leaves of music and other books.
DON, PATRICK COCKBURN -	2111	27th July 1870	Manufacturing carbonate of soda. (*Communicated by Emil Bergmann.*)
DON, THOMAS - - - -	1304	6th May 1870	Improvements in obtaining and applying heat and in furnaces employed therein, also in utilizing a product resulting therefrom.
DONALD, JAMES MONROE MC-	2294	19th Aug. 1870	Improved methods of effecting the lubrication of and exclusion of dust from carriage axle journals and other bearings, and in apparatus or mechanical devices employed therefor. (*Patented by William Robert Lake.*)
DONALD, JAMES MONROE MC-	3165	2nd Dec. 1870	Axles and axle-boxes for wheeled vehicles. (*Patented by William Robert Lake.*)
DONALD, JOHN - - -	3292	16th Dec. 1870	Furnaces. (*Communicated by Carl Wittenstrom.*)
DONALDSON, ALEXANDER -	685	8th March 1870	Dry gas meters.
DONISTHORPE, GEORGE EDMUND.	620	2nd March 1870	Apparatus for cutting coal and other mineral.
DONISTHORPE, GEORGE EDMUND.	2387	1st Sept. 1870	Machinery for cutting coal and other minerals.
DONISTHORPE, GEORGE EDMUND, junior.	2985	14th Nov. 1870	Apparatus for registering the number of passengers carried in public carriages and the distance each has travelled.
DONISTHORPE, WORDSWORTH	2387	1st Sept. 1870	Machinery for cutting coal and other minerals.
DONNISON, ROBERT - -	2366	29th Aug. 1870	Apparatus for pressing or extracting oil from seeds.
DORRELL, JOHN - - -	2946	9th Nov. 1870	Machinery for slabbing or blooming iron and steel.
DOSSETOR, DANIEL ROBERT -	2137	1st Aug. 1870	Construction of axles, shafts for machinery and other articles.
DOTY, HENRY HARRISON -	2365	31st Oct. 1870	Means or apparatus for producing the more complete combustion of gas, paraffin and other hydrocarbon oils. (*Patented by Alexander Horace Brandon.*)
DOUGHTY, EDWIN - - -	1643	7th June 1870	Lace machines.
DOULTON, HENRY - - -	2081	23rd July 1870	Stop valves.
DOULTON, HENRY - - -	3159	1st Dec. 1870	Construction of irrigation conduits or channels for the conveyance and distribution of sewage and other waters.
DOWELL, DANIEL Mc - -	2008	15th July 1870	Improvements in rails for railways and tramways, and in wheel tyres for railways and tramways.
DOWIE, ANDREW LINMERE -	1118	16th April 1870	Improvements in treating copper, zinc, tin and their compounds, and in obtaining metallic compounds or alloys suitable for various useful and ornamental purposes.
DOWLING, DANIEL - - -	36	5th Jan. 1870	Breech-loading rifles.
DOWN, JONATHAN - - -	2800	24th Oct. 1870	Obtaining copper from cupreous pyrites.
DOWNS, WILLIAM HENRY -	3058	22nd Nov. 1870	Bearings for carriage axles. (*Patented by Alfred Vincent Newton.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Dows, Gustavus Davis -	102	12th Jan. 1870	Machines for bottling soda-water and other gaseous or effervescing liquids. (*Patented by Adolphus Clark and Abraham Van Winkle.*)
Drabble, John - - -	953	1st April 1870	Machines for doubling and spinning.
Drake, Charles - - -	9	1st Jan. 1870	Improvements in the construction of concrete buildings and in apparatus employed for this purpose.
Draper, Francis - - -	2286	18th Aug. 1870	Metallic cartridges for fire-arms. (*Patented by William Robert Lake.*)
Dronsfield, Joseph Standring.	3557	7th Feb. 1870	Apparatus for grinding the card covered surfaces of portions of the carding-engines employed in the preparation of cotton and other fibrous materials.
Drouot, Achille - - -	2313	22nd Aug. 1870	Improvements in cord making and in the apparatus connected therewith.
Drummond, Thomas - -	3022	18th Nov. 1870	Improved means and apparatus for exhibiting advertisements.
Drury, Robert Francis -	466	17th Feb. 1870	An improved adjusting spanner.
Drury, Rupert - - -	3032	19th Nov. 1870	An improved box or case for containing jewels, deeds and other valuables, applicable also as a toy puzzle.
Dryden, John Andrews -	63	7th Jan. 1870	Improvements in the preparation of combustible liquids for illuminating purposes, and in lamps for burning such or other combustible liquids.
Du Bled, Achille - -	739	12th March 1870	An improved holder for cartridges. (*Communicated by Monsieur Pierre Marie Fouque.*)
Du Fay, Alcide Sanial -	673	7th March 1870	Improved apparatus for injecting and reducing liquids to a state of spray or minute sub-division. (*Patented by William Edward Newton.*)
Du Motay and Company, Cyprien Marie Tessié.	849	22nd March 1870	Improved processes for the treatment of ores in order to extract copper therefrom. (*Patented by Thomas James Smith.*)
Du Motay, Cyprien Marie Tessié.	876	25th March 1870	A new or improved docimastic process and methods for the treatment of the simple sulphurets, the complex sulphurets and the arsenic-sulphurets of lead, antimony, copper and iron, as well as coppery matts and coppers containing precious metals, in order to extract silver and gold therefrom. (*Patented by Thomas James Smith.*)
Du Motay, Cyprien Marie Tessié.	1061	11th April 1870	Treating excremental matter. (*Patented by Thomas James Smith.*)
Du Motay, Cyprien Marie Tessié.	1746	17th June 1870	Producing caustic soda and caustic potash. (*Patented by Thomas James Smith.*)
Du Motay, Cyprien Marie Tessié.	1750	18th June 1870	Improvements in treating copper pyrites and in apparatus therefor. (*Patented by Thomas James Smith.*)
Dübs, Henry - - -	2077	23rd July 1870	Combining or coupling locomotives and other railway rolling stock.
Duce, Edwd - - - -	546	24th Feb. 1870	Machines or apparatus for reeling slivers of wool direct from the gill-box.
Dudgeon, Richard - -	2010	15th July 1870	Rotary engines.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
DUER, SIDENGHAM - -	1852	29th June 1870	Construction of steam-boilers. (*Communicated by George Whitfield.*)
DUERRE, RUDOLPH - -	473	17th Feb. 1870	Velocipedes.
DUFF, CHARLES - - -	587	28th Feb. 1870	Treatment of certain fibrous substances to be used in the manufacture of paper-pulp for paper, and for conversion into textile fabrics.
DUFF, CHARLES - - -	2351	27th Aug. 1870	Treatment of certain fibrous substances to be used in the manufacture of paper-pulp for paper, and for conversion into textile fabrics.
DUFFEY, JAMES - - -	694	9th March 1870	Receptacles intended to be used as a protection from fire.
DUFRENÉ, HECTOR AUGUSTE -	991	5th April 1870	An improved machine or apparatus for winding yarns or threads on bobbins. (*Communicated by Monsieur Jules Plessier.*)
DUFRENÉ, HECTOR AUGUSTE -	1340	11th May 1870	An improved water meter, parts of which are applicable for other purposes. (*Communicated by Monsieur Jules Ossry.*)
DUGDALE, EDWARD - -	764	15th March 1870	Sizing machines.
DUGDALE, JOSEPH - - -	764	15th March 1870	Sizing machines.
DUGGAN, FREDERICK JONES -	11	3rd Jan. 1870	Portable stoves, lamps and lanterns.
DUKE, HENRY - - -	756	15th March 1870	Hand trucks.
DUMARS, LOUIS ADOLPHE -	472	17th Feb. 1870	An improved process for cleaning, purifying, improving and preserving grain and seed.
DUMONT, GUSTAVE - -	349	7th Feb. 1870	Apparatus for the treatment of argentiferous leads.
DUNBAR, JAMES - - -	1664	9th June 1870	Machinery or apparatus for supplying coal, cannel or other substances to gas retorts or ovens, and for withdrawing the same after distillation.
DUNCAN, GEORGE - - -	2298	20th Aug. 1870	Improved means and apparatus for discharging caustic soda from pots.
DUNCAN, GEORGE - - -	3031	19th Nov. 1870	Improved machinery or apparatus for doubling, cutting off, separating and folding paper as delivered from rotary web printing machines. (*Partly communicated by George Lauder.*)
DUNKERLEY, BENJAMIN - -	2806	25th Oct. 1870	Machinery or apparatus for stretching felt hat bodies.
DUNN, EDWARD RICHARD -	1332	10th May 1870	A new or improved metallic alloy for the bearings or brasses of shafts, axles of carriages and other rotating bodies.
DUNN, THOMAS - - -	3202	6th Dec. 1870	Apparatus for obtaining, condensing, utilizing and applying mineral and other waters.
DUNN, WILLIAM WALLACE -	2427	7th Sept. 1870	Machinery for manufacturing type. (*Patented by George Haseltine.*)
DUNNACHIE, JAMES - -	735	12th March 1870	Stoves for drying bricks and other articles in pottery.
DUNSTAN, JOHN - - -	2638	5th Oct. 1870	Breech-loading fire-arms.
DUPLAND, HENRY - - -	442	15th Feb. 1870	Improved mode and means for preventing dampness and saltpetre.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Dupuy, François - - -	1710	15th June 1870	An improved anti-hemorrhoidal apparatus or anti-hemorrhoidal plate.
Duquet, Cyrille - - -	2931	7th Nov. 1870	An improved tell-tale mechanism applicable to clocks and watches. (*Patented by David Lang.*)
Durand, François - -	688	8th March 1870	An improved method of and apparatus for executing submarine constructions. (*Patented by William Robert Lake.*)
Durie, Robert Hogg - -	262	28th Jan. 1870	Improvements in braking or retarding railway trains and in the apparatus or means employed therefor.
Dusart, Lucien - - -	1172	22nd April 1870	An improved mode of preparing certain organic bases for producing colouring matters.
Dutasta, Emile - - -	288	1st Feb. 1870	An improved hat cover.
Duxbury, Yates - - -	39	5th Jan. 1870	Machinery used in making paper.
Duyck, James Edward -	2046	20th July 1870	Treating mineral oils.
Dwyer, Robert Doyne -	85	11th Jan. 1870	An improved mode of roofing buildings.
Dwyer, Robert Doyne -	86	11th Jan. 1870	An improved self closing tap for drawing off liquids.
Dyson, Alfred - - -	1582	31st May 1870	Machinery or apparatus for carding wool or other fibrous substances.
Dyson, Alfred - - -	3126	29th Nov. 1870	Machinery or apparatus for carding wool or other fibrous substances.
Dyson, George Walter -	2856	31st Oct. 1870	Rolling and finishing circular metal plain or irregular rods and tubes.
Dyus, John - - - - -	2037	20th July 1870	Mechanism arranged in combination with the locks of boxes, dressing and other cases, desks, drawers, cupboards or other similar receptacles, to facilitate the opening thereof.

E.

East, Charles - - -	53	6th Jan. 1870	Boots and shoes.
Eastwood, James - - -	2430	8th Sept. 1870	Apparatus for heating water for steam-boilers and for other purposes, and for an improved vacuum valve to prevent collapse.
Eastwood, John, the elder -	1531	26th May 1870	Machinery for combing wool, cotton, flax and other fibrous substances.
Eaton, James - - -	1503	24th May 1870	Machinery or apparatus for making metal cop tubes. (*Patented by John Henry Johnson.*)
Eaton, Ralph - - -	2806	25th Oct. 1870	Machinery or apparatus for stretching felt hat bodies.
Eavestaff, William Glen -	3063	23rd Nov. 1870	An improved action for piano-fortes.
Eccles, James - - -	916	29th March 1870	"Temples" employed in looms for weaving.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
ECHEVERRIA, JOSEPH DE -	1777	22nd June 1870	An internal spring coupling and brake for transmitting, stopping or regulating motion.
ECKHOLD, CHARLES AUGUST [CONSTANTIN.	2252	13th Aug. 1870	Tobacco pipes.
EDMONDSON, FREDERICK WIL- [LIAM.	1033	8th April 1870	Machinery for etching or engraving cylinders used in printing and embossing.
EDMONDSON, JAMES - -	1033	8th April 1870	Machinery for etching or engraving cylinders used in printing and embossing.
EDMONDSON, WILLIAM - -	1033	8th April 1870	Machinery for etching or engraving cylinders used in printing and embossing.
EDSON, MARMONT B. - -	2411	3rd Sept. 1870	An improved recording pressure-gauge and alarm apparatus. (*Patented by George Haseltine.*)
EDWARDS, ALFRED - - -	2808	25th Oct. 1870	Construction and manufacture of brushes for tube cleaning and other similar purposes.
EDWARDS, BENJAMIN JOSEPH	1333	10th May 1870	Apparatus for photographic printing.
EDWARDS, EDMUND - -	38	5th Jan. 1870	Cocks and valves.
EDWARDS, EDWARD - -	2423	7th Sept. 1870	An improved apparatus for inhaling nitrous oxide or other gases.
EDWARDS, ERNEST - - -	2485	15th Sept. 1870	Photo-mechanical printing.
EDWARDS, FREDERICK - -	1434	18th May 1870	Improvements in the manufacture or production of lace made on lace machines employed in making figured fabrics, and in the machinery or apparatus employed therein.
EDWARDS, FREDERICK - -	2500	16th Sept. 1870	Improvements in the manufacture or production of patterned fabrics, and in the machinery or apparatus employed therein.
EDWARDS, JOHN - - - -	2152	2nd Aug. 1870	Locks.
EDWARDS, JOHN CHARLES -	3038	21st Nov. 1870	Machinery for preparing and washing wool and other fibrous materials, and for mixing and forming fur or materials for felt hat bodies.
EDWARDS, RICHARD - -	1932	7th July 1870	Interlacing and interlaying of papers with thread, and their application to the manufacture of envelopes and other purposes.
EDWARDS, ROBERT - - -	366	8th Feb. 1870	Improved apparatus for steam cultivation.
EDWARDS, ROBERT - - -	2193	6th Aug. 1870	Improved apparatus for steam cultivation.
EDWARDS, WILLIAM HENRY -	2808	25th Oct. 1870	Construction and manufacture of brushes for tube cleaning and other similar purposes.
EGUILLON, GILBERT - -	391	10th Feb. 1870	Improvements in the mode of reducing the friction of pivots turning on oscillating levers, which system is also applicable to wheeled vehicles, especially waggons or railway trucks.
EICKEMEYER, RUDOLF - -	1170	22nd April 1870	Certain new and useful improvements in mowing and reaping machines. (*Patented by George Tomlinson Bousfield.*)
EIFLANDER, JOHN - - -	2606	30th Sept. 1870	Improvements in the construction of ships of war and fortifications, the said improvements being also applicable to garments to be worn by soldiers and sailors in war time.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
EIPFELDT, HERRMANN - -	309	2nd Feb. 1870	An improved mode of and apparatus for revivifying animal charcoal. (*Patented by William Robert Lake.*)
ELCE, JOHN - - - -	5	1st Jan. 1870	Certain improvements in self-acting temples for looms.
ELDERY, JOHN Mc - - -	1358	12th May 1870	An improved construction and arrangement of grate bars. (*Patented by John Henry Johnson.*)
ELKINGTON, JAMES BALLENY	554	24th Feb. 1870	Improvements in the manufacture of copper tubes and also of copper rollers for calico printing, embossing and similar uses.
ELKINGTON, JAMES BALLENY	2525	20th Sept. 1870	Manufacture of wire for electric telegraph conductors.
ELLINGTON, EDWARD BAYZAND.	614	2nd March 1870	Hydraulic cranes or apparatus for raising, hauling and lowering weights.
ELLIOT, GEORGE - - -	655	5th March 1870	Improved means of ventilating and reducing the temperature of rooms or apartments in vessels, buildings and other structures.
ELLIOT, JOHN WHEELER -	1366	13th May 1870	Apparatus for removing snow from lines of railway.
ELLIOTT, GEORGE WILLIAM -	1147	19th April 1870	Slide valves.
ELLIOTT, JOHN - - -	2071	22nd July 1870	Gas regulators.
ELLIS, DAVID - - - -	2262	15th Aug. 1870	Certain improvements in machinery for ginning cotton.
ELLIS, GEORGE HENRY - -	173	20th Jan. 1870	Mode of constructing ladders.
ELLIS, GEORGE HENRY - -	521	23rd Feb. 1870	Apparatus for washing, wringing and mangling.
ELLIS, GEORGE HENRY -	621	3rd March 1870	Ladders.
ELLIS, GEORGE HENRY - -	1056	11th April 1870	Rotary engines and pumps.
ELLIS, GEORGE HENRY - -	2437	9th Sept. 1870	Steam, gas and air-engines.
ELLIS, THOMAS - - -	896	26th March 1870	Machinery or apparatus for compressing, forming and extracting moisture from peat, clay and other materials. (*Patented by John Henry Johnson.*)
ELLIS, THOMAS - - -	1290	5th May 1870	Furnaces and boilers.
ELLIS, THOMAS ATKINSON -	2240	12th Aug. 1870	An improved washing machine.
ELLIS, WILLIAM - - -	2671	8th Oct. 1870	Improvements in or applicable to machinery or apparatus for cutting wood to any required pattern or design.
ELLIS, WILLIAM ALONZO -	896	26th March 1870	Machinery or apparatus for compressing, forming and extracting moisture from peat, clay and other materials. (*Patented by John Henry Johnson.*)
ELLISDON, JOSEPH - - -	2792	24th Oct. 1870	An improved expanding and contracting canopy applicable to omnibuses, furniture vans and other uses.
ELROY, JOHN Mc - - -	572	26th Feb. 1870	Apparatus for communicating between the guards, drivers and passengers of railway trains.
ELSDON, JOHN FENN - -	1884	4th July 1870	Dressing or cutting millstones.
ELSDON, ROBERT - - -	2588	29th Sept. 1870	Locomotive engines and tenders.
EMMOTT, JAMES - - -	2912	4th Nov. 1870	Machinery for preparing wool for combing.
EMPSON, THOMAS - - -	1231	29th April 1870	An improved button for certain purposes.
EMSLIE, JAMES ANTHONY -	1262	3rd May 1870	Apparatus for lifting, forcing or conducting liquids, gases or air.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Emslie, James Thomas -	1262	3rd May 1870	Apparatus for lifting, forcing or conducting liquids, gases or air.
Ensom, Vernon Francis -	2462	12th Sept. 1870	Apparatus suitable for scouring, washing, bleaching, dyeing and drying fibrous materials in the raw and manufactured state and for like purposes.
Ensor, Frederic Rainford -	1911	6th July 1870	Manufacture of lace in twist lace machines.
Eshelby, John - - -	2799	24th Oct. 1870	Manufacture of fountain lamps.
Etienne, André - - -	1039	8th April 1870	Construction of carriages, vehicles and velocipedes.
Etienne-Guyot, Louis Auguste.	304	2nd Feb. 1870	Watches. (*Patented by Bristow Hunt.*)
Eustace, John Joshua -	2484	15th Sept. 1870	Spittoons for the seats of railway carriages and for other seats.
Evans, Absalom - - -	1241	30th April 1870	A new automaton vase or depôt for holding coals or other substances.
Evans, John Isaac - -	1320	9th May 1870	An improved brushing machine for cleaning tin plates.
Evans, John Isaac - -	2757	20th Oct. 1870	Apparatus for cleansing, brushing and polishing tin plates.
Evans, Ormrod Coffern -	426	12th Feb. 1870	Endless chain rotary digging machinery.
Evans, Philip Charles -	1484	23rd May 1870	Apparatus for feeding wool, cotton or other fibrous materials to carding or other machines.
Evans, Thomas - - -	2148	2nd Aug. 1870	Buttons. (*Communicated by Joseph Hampson.*)
Evans, William - - -	2650	6th Oct. 1870	Manufacture of tin plates and other metal-coated plates.
Everett, Robert John -	1099	14th April 1870	An improved method of treating and utilizing some of the waste products resulting from the purifying of gas in gas works.
Ewen, James Mc - - -	2890	2nd Nov. 1870	Apparatus for producing and applying motive-power. (*Patented by Alexander Melville Clark.*)
Ewing, John Orr - - -	1752	18th June 1870	Treating or preparing certain lubricating oils.
Exter, Charles - - -	1278	4th May 1870	An improved brake applicable to the rolling stock of railways and other vehicles.
Eyre, Alexander Robert -	2970	11th Nov. 1870	Production of ornamental work in glass combined or not with metals, porcelain and other like-substances.
Eyre, Charles James - -	850	22nd March 1870	Apparatus for producing motive-power.
Eyre, Charles James - -	988	4th April 1870	Improved means of securing envelopes and their contents.
Eyres, John William - -	210	22nd Jan. 1870	Improvements in ornamenting woven and felted fabrics, and in apparatus employed therein.
Eyth, Max - - - -	2184	5th Aug. 1870	Steam-engines.
Eyth, Max - - - -	2725	15th Oct. 1870	Apparatus for ploughing, harrowing and sowing land when steam power is employed.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.

F.

FABIAN, JULIUS - - -	1741	17th June 1870	An improvement in billiard and bagatelle cues.
FAIRBAIRN, SIR WILLIAM, Ba- [ronet.	810	18th March 1870	Steam-boilers.
FAIRBANKS, HENRY - -	2456	10th Sept. 1870	Weighing-machines involving means for counting, registering, printing, adding and other operations connected with weighing scales.
FAIRCLOUGH, JOHN (U. S. A.) -	1042	8th April 1870	An improved millstone dress. (*Patented by John Fairclough.*)
FAIRCLOUGH, JOHN (Warring- [ton).	1042	8th April 1870	An improved millstone dress. (*Communicated by John Fairclough.*)
FAIRLIE, ROBERT FRANCIS -	435	15th Feb. 1870	Metallic packing for stuffing-boxes.
FAIRLIE, ROBERT FRANCIS -	827	19th March 1870	Improvements in wheels for rail or tramway locomotive engines and carriages or vehicles, and in the permanent way for the same.
FALCK, CHARLES, junior -	1919	7th July 1870	An improved portable refrigerator.
FALCONER, JOHN - - -	1516	25th May 1870	Machinery for forming bats of wool for felting purposes. (*Communicated by Lyman Robinson.*)
FALCONER, JOHN - - -	1708	14th June 1870	An improved mode of forming bats of wool for felting purposes. (*Patented by Alfred Vincent Newton.*)
FALES, JOEL FISHER - -	2939	8th Nov. 1870	Machinery for manufacturing carpet lining. (*Patented by Alexander Melville Clark.*)
FANSHAWE, HENRY RICHARD- [SON.	863	24th March 1870	Improvements in the treatment of hides and skins, in tanning and otherwise utilizing all portions or pieces thereof, and in the treatment of goods already tanned.
FANSHAWE, HENRY RICHARD- [SON.	1678	10th June 1870	An improvement in towels, rubbers and wipers.
FARINAUX, ISIDORE - -	1927	7th July 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdoch.*)
FARINAUX, ISIDORE - -	3108	26th Nov. 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdoch.*)
FARINI, WILLIAM - - -	1572	30th May 1870	Improved apparatus to be employed in gymnastic performances.
FARLANE, JAMES MC - -	830	21st March 1870	Improved modes, means and apparatus for and connected with the copying of letters and other documents.
FARLANE, THOMAS DUNCAN [MC.	1126	18th April 1870	Apparatus for shaping plastic materials.
FARLANE, THOMAS DUNCAN [MC.	2724	15th Oct. 1870	Apparatus for shaping plastic materials.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
FARMER, GEORGE, the younger	1732	17th June 1870	Improved mode and means for the indenting of iron for shoe heel tips.
FARMER, JAMES - - -	527	23rd Feb. 1870	Machinery or apparatus for drying woven fabrics and yarns or threads, and for "ageing" woven fabrics."
FARMER, JOHN STINSON -	569	25th Feb. 1870	Apparatus for working and locking or securing railway points and signals.
FARNOL, HENRY JOHN - -	1250	2nd May 1870	Manufacture of brass-headed nails, screw rings and rivets.
FARQUHARSON, JOHN - -	3178	3rd Dec. 1870	Improvements in breech-loading fire-arms and appliances therewith.
FARRELL, ISAAC - - -	2770	20th Oct. 1870	Propulsion and guidance or steerage of velocipedes and boats.
FARRELL, MATTHEW JOSEPH O'	2895	3rd Nov. 1870	Improvements in the manufacture of roll tobacco also applicable to coils of tobacco.
FARRINGTON, ERNEST - -	1168	22nd April 1870	Breech-loading fire-arms.
FARRON, SQUIRE - - -	2315	23rd Aug. 1870	Certain improvements in diminishing valves for steam and other purposes.
FARROW, CHARLES - - -	854	23rd March 1870	Construction of iron wine bins.
FAULKNER, JULIUS AUGUSTUS	3168	2nd Dec. 1870	Window, door and table fasteners.
FAURE, CAMILLE - - -	608	2nd March 1870	An improved apparatus for feeding or supplying steam generators with water, which said apparatus is applicable to the raising and forcing of water and other liquids. (*Patented by Thomas Brown.*)
FAVIER-LAGAYE, JEAN BAPTISTE LÉOPOLD.	942	31st March 1870	Mechanism for diminishing friction. (*Patented by William Robert Lake.*)
FAWCETT, FRANCIS BEST -	2914	4th Nov. 1870	Manufacture of carpets and other pile fabrics.
FAWCETT, THOMAS - - -	1398	16th May 1870	Sawing machinery.
FAWCETT, THOMAS CONSTANTINE.	199	22nd Jan. 1870	Raising gigs used in the process of raising the nap of woollen cloth or other fabrics.
FAWCETT, WILLIAM HENRY -	502	21st Feb. 1870	Improved apparatus for heating knives for reaping and mowing machines, in order to the partial hardening of such knives.
FAWCUS, GEORGE - - -	1362	12th May 1870	Coatings for iron ships.
FAWCUS, GEORGE EDWARD -	177	20th Jan. 1870	Refining lead.
FAY, ALCIDE SANIAL DU -	673	7th March 1870	Improved apparatus for injecting and reducing liquids to a state of spray or minute subdivision. (*Patented by William Edward Newton.*)
FEARN, HENRY EUSTACE -	2795	24th Oct. 1870	Manufacture of the cutting tools or laps used by glasscutters, lapidaries and other similar handicraftsmen.
FEARN, THOMAS - - -	2718	14th Oct. 1870	Apparatus for raising and lowering weights.
FEATHER, THOMAS - - -	1181	23rd April 1870	Machinery employed in slubbing, drawing and finishing worsted and other fibres.
FEISS, JULIUS - - - -	326	4th Feb. 1870	Construction of knitting machines. (*Patented by Alfred Vincent Newton.*)
FELBER, JOHN - - -	750	15th March 1870	Improved machinery or apparatus and processes for the manufacture of paper and other pulp from wood and other fibrous materials.
FELL, WILLIAM ATKINSON -	669	7th March 1870	Reaping and mowing machines.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Fellows, Edgar - - -	1807	25th June 1870	Improvements in planishing, levelling and creasing frying-pans and other metallic articles, and in tools or apparatus employed for those purposes.
Fellows, Samuel James -	1807	25th June 1870	Improvements in panishing, levelling and creasing frying pans and other metallic articles, and in tools or apparatus employed for those purposes.
Felton, George Matthew -	3035	19th Nov. 1870	Shirt collars.
Fenby, Joseph Beverley -	617	2nd March 1870	Attaching lamps to carriages.
Fenby, Joseph Beverley -	2405	3rd Sept. 1870	Attaching lamps to carriages.
Fennell, Joseph - - -	920	30th March 1870	Improved arrangements of privies, closets and commodes, and also for improvements in the apparatus for removing, emptying and cleansing the same.
Fensom, John - - -	1853	29th June 1870	Copying presses. (*Patented by William Spence.*)
Fenton, Ferrar - - -	2534	21st Sept. 1870	Deodorization and utilization of sewage or other feculent or putrescent matter, whether in a solid, fluid or semi-fluid state.
Fenwick, George - - -	1192	25th April 1870	Improvements in the manufacture of ropes or cables to be used for telegraphic or other purposes, and in machinery for producing such cables or ropes.
Ferdinand, Del - - -	1728	16th June 1870	An improved machine for breaking stones. (*Patented by Baldwin Fulford Weatherdon.*)
Ferguson, Frank Theophilus	400	10th Feb. 1870	An improved jug or pitcher.
Ferguson, Frank Theophilus	434	14th Feb. 1870	An improved combination implement consisting chiefly of a hammer, screw-driver, nail-puller and rule.
Ferguson, Frank Theophilus	663	5th March 1870	An improved device for holding letters and other documents.
Ferguson, Hugh - - -	514	22nd Feb. 1870	Cooking ranges.
Féron-Flamant, Auguste -	2417	6th Sept. 1870	Improvements in washing wool and other textile materials, and in apparatus to be employed for such purpose. (*Patented by Bristow Hunt.*)
Ferrari, Paul Charles [Nicolas de.	768	15th March 1870	An improved hygienic and mecanical hat.
Ferris, John - - - -	829	21st March 1870	An improved lubricating apparatus for lubricating the slide-valves and cylinders of steam-engines.
Ferris, John Pardoe - -	1184	23rd April 1870	An improved portable apparatus for generating illuminating gas.
Ferris, John Pardoe - -	2558	23rd Sept. 1870	An improved lubricating apparatus for lubricating the slide valves and cylinders of steam-engines.
Fiddes, Augustin - - -	1992	14th July 1870	An improved fire-proof composition for safes and other depositories.
Field, Arthur - - -	363	8th Feb. 1870	Velocipedes.
Field, Arthur - - -	3397	30th Dec. 1870	Improvements in the manufacture of candles and in machinery or apparatus employed for that purpose.
Field, Edward - - -	2836	27th Oct. 1870	Steam fire-engines.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
FIELD, FREDERICK - - -	961	2nd April 1870	The application of a new material to the production of illuminating oils and solid hydro-carbons, suitable for the manufacture of candles and for other purposes.
FIELD, GEORGE - - -	654	5th March 1870	Apparatus for moulding flanged and socket pipes and columns.
FIELD, GEORGE BAKER - -	1657	8th June 1870	Printing telegraph apparatus. (*Patented by William Robert Lake.*)
FIELD, GEORGE BAKER - -	2905	3rd Nov. 1870	Pneumatic telegraphs. (*Patented by William Robert Lake.*)
FIELD, JOHN KINGSFORD -	2513	19th Sept. 1870	Candles.
FIELDEN, ROBERT, junior -	197	22nd Jan. 1870	Construction of pickers for looms.
FIELDEN, THOMAS - - -	197	22nd Jan. 1870	Construction of pickers for looms.
FIELDS, WILLIAM - - -	317	3rd Feb. 1870	Treating iron. (*Patented by Alfred Vincent Newton.*)
FILETI, ENRICO - - -	2163	3rd Aug. 1870	Mariners' compasses.
FILLION, OCTAVE EUGÈNE -	606	1st March 1870	Manufacture of artificial flowers and foliage. (*Patented by Alexander Melville Clark.*)
FINCH, EDWARD - - -	1792	23rd June 1870	Machinery for forcing or exhausting air or aëriform fluids.
FINGER, LOUIS - - -	1584	31st May 1870	A new or improved electro-magnetic apparatus for moving panoramas, advertisements or other things required to be exhibited. (*Patented by Bristow Hunt.*)
FINLAY, ROBERT GILCHRIST, [junior.	360	8th Feb. 1870	Looms for weaving.
FIRMIN, GEORGE JORDAN -	1197	25th April 1870	Self registering water or liquid gauges.
FIRTH, SAMUEL - - -	571	26th Feb. 1870	Machinery for excavating coal, stone and other minerals, and for compressing air.
FIRTH, WILLIAM - - -	2296	20th Aug. 1870	Wheels of traction and other carriages or vehicles.
FIRTH, WILLIAM - - -	2554	23rd Sept. 1870	Improvements in steam, air and gas, and in fluid or hydraulic engines.
FIRTH, WILLIAM - - -	2799	24th Oct. 1870	Manufacture of fountain lamps.
FIRTH, WILLIAM - - -	3333	21st Dec. 1870	Improvements in dressing cannel coal and other minerals, and in apparatus employed for that purpose.
FISCHER, GUSTAV - - -	1468	20th May 1870	Improvements in steam-boilers and in apparatus connected therewith.
FISHER, ANDREW, junior - -	1388	14th May 1870	Apparatus to be used in dyeing yarns.
FISHER, HENRY - - -	292	1st Feb. 1870	Improvements applicable to steam-boiler and other furnaces.
FISHER, JOHANN WOLFGAN -	3089	24th Nov. 1870	Boots and shoes. (*Patented by George Haseltine.*)
FISHER, JOSHUA - - -	292	1st Feb. 1870	Improvements applicable to steam-boiler and other furnaces.
FISHER, LOUIS - - -	320	3rd Feb. 1870	Spring bed bottoms. (*Patented by William Robert Lake.*)
FISKEN, THOMAS ROBERT HAY	128	15th Jan. 1870	Improvements in machinery for breaking and softening flax and other fibrous materials, which improvements are also applicable to calendering-rollers and other purposes where a combined reciprocating rotary-motion can be employed.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
FISKEN, THOMAS ROBERT HAY	1667	9th June 1870	Machinery for cultivating land by steam or other power.
FISKEN, WILLIAM - - -	1667	9th June 1870	Machinery for cultivating land by steam or other power.
FITCH, EDWARD - - -	2628	3rd Oct. 1870	An improved machine for tapping or forming the threads in metallic nuts. (*Patented by George Haseltine.*)
FITZ-GERALD, DESMOND [GERALD.	3308	19th Dec. 1870	Portable sustaining voltaic batteries.
FITZGERALD, FRANCIS - -	519	22nd Feb. 1870	Mode of supporting and securing cattle whilst being conveyed on board ships and other vessels.
FITZHENRY, EDWARD - -	1490	23rd May 1870	Machinery for scouring, glossing and otherwise treating leather. (*Patented by William Robert Lake.*)
FITZHENRY, EDWARD - -	3037	19th Nov. 1870	Machinery for scouring, glossing and otherwise treating leather. (*Patented by William Robert Lake.*)
FLASHMAN, GEORGE, the [younger.	927	30th March 1870	Construction of mattresses.
FLEAR, JOHN - - - - -	427	14th Feb. 1870	An improved machine or apparatus for clipping horses or other animals.
FLEETWOOD, DANIEL JOSEPH	3354	22nd Dec. 1870	Manufacture of hollow vessels, and dished, sunken or tubular shapes or forms in metal.
FLEMING, ANDREW - -	2289	19th Aug. 1870	Mules for spinning.
FLEMING, GILBERT STANTON -	1730	17th June 1870	An improved cork, stopper or plug.
FLETCHER, HORATIO - -	1203	26th April 1870	Improvements in the manufacture of boot and shoe heels and tips, and shoes for horses and other beasts of draught and burden, and in machinery and apparatus to be employed therein.
FLETCHER, JOHN - - -	1495	24th May 1870	Coking and desulphurising the coke after obtaining the gases, oils and other products from coal, and the machinery or apparatus employed therefor.
FLETCHER, JOHN - - -	3238	9th Dec. 1870	An improved mill or machine for grinding corn or grain or other substances of a like nature.
FLETCHER, JOHN WILLIAM -	2658	7th Oct. 1870	Improved apparatus and fuel for facilitating the soldering of the joints of electric telegraph and other wires.
FLETCHER, WILLIAM - -	2784	22nd Oct. 1870	Apparatus for measuring liquids.
FLETCHER, WILLIAM HENRY -	3044	21st Nov. 1870	Manufacture of cambrics.
FLEURY, FRANCIS GEORGE -	133	15th Jan. 1870	Apparatus for drawing or raising and forcing liquids.
FLEURY, FRANCIS GEORGE -	1686	11th June 1870	Water-waste preventers.
FOLEY, ARTHUR - - -	383	9th Feb. 1870	Improvements in the production of photographic pictures or designs on veneers and solid wood, and in the application thereof to cabinet work, furniture, fancy wood articles and other decorative purposes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Foley, Henry - - -	383	9th Feb. 1870	Improvements in the production of photographic pictures or designs on veneers and solid wood, and in the application thereof to cabinet work, furniture, fancy wood articles and other decorative purposes.
Follows, Frederick William	2807	25th Oct. 1870	Manufacture of machines for mincing and cutting animal and vegetable substances.
Fontaine, Hippolyte - -	284	31st Jan. 1870	Motive-power engines and steam generators to be used therewith, suitable for domestic purposes. (*Patented by John Henry Johnson.*)
Fontaine, Hippolyte - -	2408	3rd Sept. 1870	A novel application of stereoscopic views to match-boxes and other boxes or cases.
Forbes, David - - -	21	3rd Jan. 1870	Manufacture of artificial manures.
Forbes, David - - -	607	2nd March 1870	Improvements in the treatment of sewage and in the production of manures.
Forbes, David - - -	1137	19th April 1870	Improvements in the treatment of sewage and in the production of manures.
Forbes, David - - -	1789	23rd June 1870	Production of compounds capable of being employed as manures.
Ford, Alfred - - -	1704	14th June 1870	An improved method of applying moisture and heat, medicated or otherwise, to the animal frame.
Ford, Alfred - - -	2761	20th Oct. 1870	An improved mode of colouring india-rubber and other like water-proof fabrics or materials.
Ford, Alfred - - -	3262	13th Dec. 1870	An improved method of applying moisture and heat, medicated or otherwise, to the animal frame.
Ford, Thomas - - -	1005	6th April 1870	Gas lamps.
Forrest, Curtis Tuttle -	1637	6th June 1870	Construction of rails for rail-roads.
Forster, Thomas - - -	638	4th March 1870	Diving dresses.
Forsythe, James - - -	2406	3rd Sept. 1870	Hackles of hackling machines employed in the preparation of flax, hemp, jute or other fibrous materials.
Forville, Emile Viarengo de	1813	25th June 1870	Velocipedes.
Fossard, Joachim - - -	1717	15th June 1870	Improved bellows for lighting fires.
Foster, Frederick - -	20	3rd Jan. 1870	Instruments for measuring fluid or other pressure or weight.
Foulger, Edward - -	3316	19th Dec. 1870	Permanent ways for railways and tram-roads.
Foulkes, Thomas - - -	2602	30th Sept. 1870	Signals and signalling. (*Communicated by James Gordon.*)
Fouque, Pierre Marie -	739	12th March 1870	An improved holder for cartridges. (*Patented by Achille Du Bled, Paul Chenaillier and Jean Auffret.*)
Fouque, Pierre Marie - -	2893	2nd Nov. 1870	Construction of cartridges for chassepots and other similar rifles. (*Patented by Pierre Combaluzier.*)
Fournier, Jules - - -	507	21st Feb. 1870	A new or improved compound or explosive mixture to be used as a substitute for gunpowder.
Fowler, George - - -	697	9th March 1870	Improvements in smelting iron ore and in furnaces employed therein.
Fowler, George Cupit -	2125	29th July 1870	An improved fumigating material.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Fowler, Joseph - - -	3191	5th Dec. 1870	Improvements in the construction of spindles and flyers for roving and slubbing frames, and in tools or machinery for making the same.
Fox, Charles James - -	677	8th March 1870	Improvements applicable to reaping and mowing machines.
Fox, Charles James - -	1760	21st June 1870	Improvements applicable to reaping and mowing machines.
Fox, George Wakefield -	819	19th March 1870	Treatment of cod-liver, castor and other medicinal oils, in order to render the same more palatable.
Fox, Howard Busby - -	1720	16th June 1870	Venetian blinds for windows and other like purposes.
Fox, Howard Busby - -	2896	3rd Nov. 1870	An improved means or apparatus for raising and lowering windows, particularly applicable to railway and other carriage windows.
Fox, Isaac - - - -	1199	26th April 1870	Manufacture of lace made on bobbin net or twist lace machines.
Fox, Thomas Richard - -	2003	15th July 1870	Rigging steam and sailing ships.
Fox, William - - -	2794	24th Oct. 1870	Grate bars.
Francis, Lewis - - -	1419	17th May 1870	An improved ink or improved inks for printing and other purposes. (*Patented by Benjamin Lawrence.*)
Franke, Carl Louis - -	1769	21st June 1870	Manufacture of steel.
Frankenberg, Adolphus -	2522	20th Sept. 1870	Apparatus for raising and drawing off liquids.
Frankenberg, Adolphus -	2672	8th Oct. 1870	Apparatus for measuring and registering the flow of liquids.
Frankenberg, Adolphus -	2673	8th Oct. 1870	Apparatus for cooling or refrigerating liquids.
Frankenberg, Adolphus -	2776	21st Oct. 1870	Improvements in the construction of sideboards, which improvements are also applicable to refreshment buffets and for other similar purposes.
Frankland, William - -	936	31st March 1870	Looms for weaving.
Frary, James Darius - -	251	28th Jan. 1870	Lawn-mowing machines. (*Patented by William Robert Lake.*)
Fraser, Robert William -	2754	19th Oct. 1870	An improved automatically rotating instrument applicable as a toy and for the diffusion of gases of combustion.
Frearson, John - - -	1971	12th July 1870	Improvements in screws and screw drivers, and in machinery for the manufacture of screws.
Fredericks, Henry - -	1944	8th July 1870	Improved locking and releasing hooks. (*Patented by William Robert Lake.*)
Freitel, Pierre - - -	218	24th Jan. 1870	An improved apparatus for lubricating parts of locomotive and other engines. (*Patented by William Edward Gedge.*)
Frerichs, Alexander - -	1538	27th May 1870	Machinery for spinning and doubling cotton and other fibrous materials.
Frezon, Jean Baptiste, the [elder.	75	10th Jan. 1870	Improvements in bleaching wool and silk, which improvements are applicable also for fixing blue colors. (*Patented by John Henry Johnson.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
FRIAR, WILLIAM - - -	812	18th March 1870	An improved apparatus for preserving life from fire.
FRIEDMANN, ALEXANDER -	779	16th March 1870	Apparatus for raising and forcing fluids and for cleaning suction strainers by steam. (*Patented by John Clayton Mewburn.*)
FRIEDMANN, ALEXANDER -	3225	8th Dec. 1870	Apparatus for injecting and ejecting fluids. (*Patented by John Clayton Mewburn.*)
FROGGATT, CEPHAS - -	1069	12th April 1870	Improvements in machinery or apparatus for felting or "planking" the bodies of hats or other coverings for the head, which improvements are also applicable to other felting purposes.
FRÖLICH, JULIUS - - -	3021	18th Nov. 1870	Furnaces.
FROST, MAHLON SMITH - -	17	3rd Jan. 1870	Improvements in electro-magnets and the application of the same for obtaining motive-power. (*Patented by William Edward Newton.*)
FROW, MARK - - - -	699	9th March 1870	Improved apparatus for facilitating the gathering and binding of cut crops into sheaves.
FRY, RICHARD - - -	2979	12th Nov. 1870	Manufacture of manure from blood and offal of animals.
FRYER, ALFRED - - -	430	14th Feb. 1870	Improvements in the preparation and preservation of animal and vegetable substances to be used as food and for other purposes, and in apparatus connected therewith.
FULLER, CHARLES WILLIAM -	291	1st Feb. 1870	Improvements in the construction of bottles intended to contain aërated and other liquids, and in the mode of stoppering the same and other similar vessels.
FUNCK, GEORGE HENRY -	2596	30th Sept. 1870	An improved valve apparatus applicable to vessels for containing petroleum and other volatile oils and spirits. (*Communicated by Meisseurs Meissner, Ackermann and Company.*)
FUNNELL, EDWARD - -	934	31st March 1870	A new or improved distance signal alarum for railways.
FURRELL, EDWARD WYBURD -	428	14th Feb. 1870	An improved bolt or fastening applicable to doors and windows and other similar purposes.
FYFE, DAVID ADAM - -	1974	13th July 1870	Improvements in the treatment and preparation of materials to be employed in the manufacture of paper, and in apparatus to be employed in such treatment and preparation, applicable also wholly or in part to the bleaching of other substances or materials.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
G.			
GABB, JOHN - - - -	1627	4th June 1870	A new or improved boiler and furnace for heating churches, public buildings, conservatories and other like purposes.
GADD, WILLIAM - - -	1719	16th June 1870	Looms for weaving.
GADD, WILLIAM - - -	2837	28th Oct. 1870	Small-ware looms.
GAILLET, ERNEST - - -	79	11th Jan. 1870	An improved mode of ploughing.
GALE, JAMES - - - -	2245	12th Aug. 1870	An improved machine for reducing "isinglass" or brewers' finings.
GALL, CHARLES - - -	2099	26th July 1870	Improved means and apparatus for regulating the admission of air to steam-boiler and other furnaces.
GALLET, CHARLES MARTIAL -	478	18th Feb. 1870	Manufacture of stoppers for bottles of all kinds.
GALLETTY, JOHN - - -	3020	18th Nov. 1870	Improvements in treating hydrocarbons and other oils, and in the machinery or apparatus employed therefor.
GALLIBERT, LOUIS ESPRIT [JOSEPH.	618	2nd March 1870	Enamels for pottery, earthenware and crockery. (*Patented by John Henry Johnson.*)
GALLIMORE, WILLIAM - -	843	22nd March 1870	Improvements in machinery and apparatus for drying, clearing, smoothing, stretching and lustreing or glossing yarn or thread in the hank or skein.
GALLOWAY, GEORGE BELL -	2729	17th Oct. 1870	Production of motive-power and appliances connected therewith.
GALLOWAY, GEORGE THOMAS	2729	17th Oct. 1870	Production of motive-power and appliances connected therewith.
GALLY, MERRITT - - -	322	3rd Feb. 1870	Printing presses. (*Patented by Alexander Melville Clark.*)
GAMGEE, JOHN - - -	60	7th Jan. 1870	Improvements in effecting the preservation of animal substances, and in the production and employment of a new antiseptic.
GAMGEE, JOHN - - -	2828	27th Oct. 1870	An improved automatic apparatus to be employed in vending or selling small articles.
GAMGEE, JOHN - - -	3296	16th Dec. 1870	Construction of refrigerating or ice making machines, condensers and attemperators.
GAMGEE, JOHN - - -	3367	24th Dec. 1870	Improvements in medicating cotton and other fibres for sanitary and surgical purposes, and in machinery employed therein.
GAMMON, RICHARD - -	1542	27th May 1870	An improved railway sleeper for permanent ways.
GANIDEL, PAUL - - -	2907	3rd Nov. 1870	Breech-loading fire-arms and cartridges. (*Patented by Alexander Melville Clark.*)
GARD, BENJAMIN MAGEE -	1962	12th July 1870	Machines for moulding and pressing bricks. (*Patented by William Robert Lake.*)
GARD, EMERY ROSS - -	1962	12th July 1870	Machines for moulding and pressing bricks. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GARD, WILLIAM GOSTWYCK -	2096	25th July 1870	An improved mixture for preserving meat, fish, poultry, game, cheese and other like edibles.
GARD, WILLIAM GOSTWYCK -	3105	26th Nov. 1870	An improved mixture for preserving meat, fish, poultry, game, cheese and other animal substances.
GARDINER, SAMUEL - -	3100	25th Nov. 1870	An improved machine for hulling, cleaning, polishing and grinding rice, wheat and other grain or seed, and for similarly treating various other substances.
GARDNER, ALFRED - - -	1098	14th April 1870	Construction of engines worked by steam or other motive-power.
GARDNER, CHARLES HENRY -	1025	7th April 1870	An improvement in typographic, lithographic and zincographic printing machines.
GARDNER, HENRY - - -	337	5th Feb. 1870	Machinery for preparing flax and other fibrous materials for manufacturing purposes, but specially adapted for the preparation of the grass known as crin.
GARDNER, JAMES ANTHONY -	1374	13th May 1870	Apparatus for signalling between passengers, guards and drivers of trains.
GARDNER, LAWRENCE - -	1583	31st May 1870	Pill making machines.
GARDNER, ROBERT - - -	513	22nd Feb. 1870	Producing photographic effects by lithographic printing on woven fabrics.
GARDNER, WILLIAM - -	3052	22nd Nov. 1870	Certain improvements in shirts.
GARRARD, GEORGE MINGAY -	2511	17th Sept. 1870	Means or apparatus employed in ploughing and tilling land.
GARSIDE, FIRTH - - -	2759	20th Oct. 1870	Machinery for "planking" or felting hat bodies, applicable also to some other purposes.
GARTON, WILLIAM - - -	205	22nd Jan. 1870	Preparation of fermentable saccharine matters.
GASKELL, PETER - - -	2552	23rd Sept. 1870	Indicators for cabs and such like public vehicles.
GASSION, LÉON GEORGES -	1923	7th July 1870	An improved device for fastening tickets upon woven goods and other articles. (*Patented by William Robert Lake.*)
GATLING, RICHARD JORDAN -	2744	18th Oct. 1870	An improvement applicable to the stocks of muskets. (*Patented by Alfred Vincent Newton.*)
GAUDET, JEAN MARIE - -	710	10th March 1870	Improvements in the manufacture of wheel tires, hoops, bands and such like articles, and in the machinery or apparatus employed therein. (*Patented by John Henry Johnson.*)
GAUTREAU, JACQUES THÉOPHILE.	762	15th March 1870	Apparatus for governing or regulating the speed of motive-power engines and for indicating the power of the same. (*Patented by John Henry Johnson.*)
GAVARD, ADONIS NICOLAS CRISTIN.	45	5th Jan. 1870	An improved cartridge case for breech-loading fire-arms.
GEDGE, WILLIAM BLANCHFLOWER.	2716	14th Oct. 1870	Improvements in the construction of perambulators, which improvements are also applicable to other carriages.
GEDGE, WILLIAM EDWARD -	10	3rd Jan. 1870	A new and improved vehicle to be propelled by manual power. (*Communicated by Jean Louis Charton-Joanot.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GEDGE, WILLIAM EDWARD -	184	21st Jan. 1870	An improved process for preserving bread in a reduced bulk. (*Communicated by Jean Joseph Auguste Mouriés.*)
GEDGE, WILLIAM EDWARD -	218	24th Jan. 1870	An improved apparatus for lubricating parts of locomotive and other engines. (*Communicated by Pierre Freitel.*)
GEDGE, WILLIAM EDWARD -	325	4th Feb. 1870	Manufacture of boxes, cases and analogous articles. (*Communicated by Jules Trottier.*)
GEDGE, WILLIAM EDWARD -	396	10th Feb. 1870	Machinery or apparatus to be used in currying leather. (*Communicated by Jules Landron, junior.*)
GEDGE, WILLIAM EDWARD -	640	4th March 1870	An improved apparatus for subcutaneous extractions and injections. (*Communicated by Georges Dieulafoy.*)
GEDGE, WILLIAM EDWARD -	792	17th March 1870	A new or improved apparatus for damping woven fabrics. (*Communicated by Emile Welter.*)
GEDGE, WILLIAM EDWARD -	1209	27th April 1870	An improvement in rolling mills or machines for manufacturing round and square bar iron. (*Communicated by Hyacinthe Vigour.*)
GEDGE, WILLIAM EDWARD -	1365	13th May 1870	An improved steam machine for agricultural work and land transport of every kind. (*Communicated by Jean Baptiste Honoré Petitpierre.*)
GEDGE, WILLIAM EDWARD -	1444	19th May 1870	Steam-engines. (*Communicated by Benoit Louchart.*)
GEDGE, WILLIAM EDWARD -	1553	27th May 1870	A new or improved system of grooves for rolling and shaping iron or other metals. (*Communicated by Pierre Michel Sibut, senior.*)
GEDGE, WILLIAM EDWARD -	1554	27th May 1870	A new or improved plough. (*Communicated by Pierre Mathurin Tanvez.*)
GEDGE, WILLIAM EDWARD -	1577	30th May 1870	Knitting machines. (*Communicated by Mr. Germain, junior.*)
GEDGE, WILLIAM EDWARD -	1751	18th June 1870	Machinery for cutting corks. (*Communicated by Louis Dollone.*)
GEDGE, WILLIAM EDWARD -	1819	27th June 1870	An improved process of drilling and cutting plane surfaces in the manufacture of crystal glass or metal ware, and an improved lathe for this purpose. (*Communicated by Georges Blau.*)
GEDGE, WILLIAM EDWARD -	1893	4th July 1870	Frames for porte-monnaies, pocket books, cigar cases and similar articles. (*Communicated by Sébastien Jacobsohn and François Massin.*)
GEDGE, WILLIAM EDWARD -	1999	15th July 1870	An improved method of incorporating metal and cement in the construction of tanks, boxes, vases or pots for horticultural and other purposes, water and other pipes and conduits, artificial ponds, reservoirs, basins and rivulets, embankments of watercourses and analogous works. (*Communicated by Joseph Monier.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GEDGE, WILLIAM EDWARD -	2135	30th July 1870	A new or improved application of atmospheric power to fixed locomotive and ascensional machines. (*Communicated by Alfred François Osselin.*)
GEDGE, WILLIAM EDWARD -	2751	19th Oct. 1870	An improved apparatus combining the functions of a bung and of a self-acting vent-peg. (*Communicated by Romain François Bigot.*)
GEDGE, WILLIAM EDWARD -	2812	26th Oct. 1870	An improvement in rolling mills or machines for manufacturing round and square bar iron. (*Communicated by Hyacinthe Vigour.*)
GEDGE, WILLIAM EDWARD -	2964	11th Nov. 1870	An improved steam machine for agricultural work and land transport of every kind. (*Communicated by Jean Baptiste Honoré Petitpierre.*)
GEE, WILLIAM - - -	2419	6th Sept. 1870	An improved construction of lubricator. (*Patented by Alfred Vincent Newton.*)
GEIGER, ALOYSE - - -	1805	25th June 1870	Machinery or apparatus for manufacturing "spool" or paper tubes for use in spinning machinery. (*Patented by James Shackleton and Benjamin Shackleton.*)
GEIGER, JOSEPH - - -	1805	25th June 1870	Machinery or apparatus for manufacturing "spool" or paper tubes for use in spinning machinery. (*Patented by James Shackleton and Benjamin Shackleton.*)
GELSTHARP, CHARLES - -	874	25th March 1870	Smelting copper and other metals.
GELSTHARP, CHARLES - -	875	25th March 1870	Extracting copper from ores and compounds.
GEORGE, BENJAMIN GEORGE -	600	1st March 1870	Methods of manufactures and combinations therewith of processes for producing pictorial, ornamental and other designs and devices.
GEORGE, GEORGE - - -	2752	19th Oct. 1870	Numerical and registering and indicating apparatus.
GERALD, DESMOND GERALD [FITZ-	3308	19th Dec. 1870	Portable sustaining voltaic batteries.
GERBAULT-GUICHARD, PIERRE [JACQUES.	808	18th March 1870	Lime kilns. (*Patented by Henry Edward Newton.*)
GERMAIN, junior - - -	1577	30th May 1870	Knitting machines. (*Patented by William Edward Gedge.*)
GERMAIN, WILLIAM - -	1221	28th April 1870	An improvement in or an addition to earrings.
GIBB, THOMAS - - -	874	25th March 1870	Smelting copper and other metals.
GIBB, THOMAS - - -	875	25th March 1870	Extracting copper from ores and compounds.
GIBBONS, ALFRED ROBERT -	140	17th Jan. 1870	Machinery or apparatus for ornamenting or embroidering fabrics.
GIBBONS, WILLIAM - -	1838	28th June 1870	Improved strapping motion in mules for spinning.
GIBBS, WILLIAM ALFRED -	2145	1st Aug. 1870	Drying apparatus for drying agricultural, animal and chemical and commercial products.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GIBB, MONTGOMERY - -	1508	24th May 1870	Connections for fire-engine hoses and other pipes. (*Patented by Loftus Perkins.*)
GIBSON, HENRY SIKES - -	705	10th March 1870	Improvements applicable to hats and other like coverings for the head.
GIBSON, ROBERT EMERSON -	997	5th April 1870	Utilization of a certain material obtained in treating cotton seed and in machinery employed therein.
GIBSON, ROBERT EMERSON -	1879	2nd July 1870	An improved mode of and apparatus for raising or elevating certain kinds of paper-making materials from revolving bodies.
GIBSON, ROBERT EMERSON -	2532	21st Sept. 1870	Machinery for breaking cotton seed to facilitate the separation of the kernel from the husk.
GIBSON, WILLIAM WALKER -	3258	13th Dec. 1870	Improvements in separating seeds and ground or pulverized substances, and in the apparatus or means employed therefor.
GIESSNER, MONSIEUR - -	2090	25th July 1870	Means or apparatus for facilitating the preparation of the uppers of boots and shoes. (*Patented by Philip Schwartz.*)
GILBEE, WILLIAM ARMAND -	2211	9th Aug. 1870	An improved steam generator. (*Communicated by Nelson Horatio Barbour.*)
GILBEE, WILLIAM ARMAND -	2965	11th Nov. 1870	An improved water meter, parts of which are applicable for other purposes. (*Communicated by Jules Oury.*)
GILBERT, THOMAS BENNETT -	1377	13th May 1870	Fire-escapes applicable to the windows of dwelling-houses.
GILBEY, ALFRED - - -	1961	12th July 1870	Improvements in buildings applicable to orchards or other horticultural purposes.
GILBEY, WALTER - - -	1397	16th May 1870	An improved fastener more particularly applicable to boxes, packing and other cases.
GILCHRIST, JAMES - - -	862	24th March 1870	A new or improved ratchet brace or ratchet drill brace and grab combined.
GILL, JAMES SEEL - - -	1357	12th May 1870	Construction of steam valves or cocks. (*Patented by William Edward Newton.*)
GILLMAN, ALEXANDER WILLIAM.	3264	13th Dec. 1870	Treatment of beer, ale and other liquids in order to fine and preserve them.
GILMAN, SAMUEL H. - -	2167	3rd Aug. 1870	An improved method of and apparatus for refining and ageing liquors. (*Patented by William Robert Lake.*)
GIRARD, ADAM CHARLES -	990	5th April 1870	Manufacture of iron. (*Patented by Henry Woodcroft Hammond.*)
GIRAUD, MATHIEU - - -	1457	19th May 1870	Machinery for tilling or digging land and other earth-works.
GIRDLESTONE, JOHN WARD -	2398	2nd Sept. 1870	"Dry" closets, commodes, urinals and other receptacles for putrescible matter.
GIRDWOOD, ROBERT - -	803	18th March 1870	Machinery or apparatus for cutting or dressing stone.
GIROUD, HENRI - - -	315	3rd Feb. 1870	Gas and other pressure regulators. (*Patented by John Henry Johnson.*)
GITTINS, WILLIAM HENRY -	2958	10th Nov. 1870	A portable apparatus for turning, airing and screening wheat and other grain, which machine is particularly applicable for the removal of dust and weevils.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GIVORD, JEAN BAPTISTE -	691	8th March 1870	Improved apparatus for generating steam or elastic vapours for actuating motive-power engines. (*Patented by William Edward Newton.*)
GJERDRUM, OTTO - - -	2379	31st Aug. 1870	Smoke-preventing apparatus.
GLADSTONE, THOMAS MURRAY	2422	6th Sept. 1870	Chimney tops and ventilators.
GLEIG, HENRY LOCKHART -	3150	1st Dec. 1870	Pianofortes.
GLEN, FRANCIS WAYLAND -	1854	29th June 1870	Apparatus for effecting the delivery of mail bags and parcels to railway trains in motion. (*Patented by William Robert Lake.*)
GLEW, JOHN HENRY - -	2475	14th Sept. 1870	An improved standing bench for boot and shoemakers, locksmiths and other artizans.
GLISENTI, FRANÇOIS - -	269	29th Jan. 1870	Breech-loading fire-arms. (*Patented by Alexander Horace Brandon.*)
GLOVER, FREDERICK ROBERT AUGUSTUS.	984	4th April 1870	Improvements in anchors and in the gear for facilitating the dropping, weighing and boarding of anchors.
GLOVER, FREDERICK ROBERT AUGUSTUS.	1307	7th May 1870	Steering or manœuvring ships and other vessels.
GLOVER, FREDERICK ROBERT AUGUSTUS.	2185	5th Aug. 1870	Apparatus for lowering, hauling up, raising, fishing, catting or otherwise manipulating anchors.
GLOVER, GEORGE - - -	3394	30th Dec. 1870	An improved invalid bedstead.
GLOVER, JOHN - - -	743	14th March 1870	Means or apparatus for regulating the flow of air into steam-boiler and other furnaces.
GLOVER, LAURENCE - -	1616	4th June 1870	A new or improved moustache support.
GODFREY, CORNELIUS - -	1603	2nd June 1870	An improved mode of preventing the corrosion of iron exposed to water or dampness. (*Patented by Alfred Vincent Newton.*)
GODILLOT, ALEXIS - - -	578	26th Feb. 1870	An improved military tent. (*Communicated by Ferdinand Waldejo.*)
GOFF, DARIUS - - -	261	28th Jan. 1870	Mechanism for spinning wool. (*Patented by William Robert Lake.*)
GOFF, DARIUS LEE - -	261	28th Jan. 1870	Mechanism for spinning wool. (*Patented by William Robert Lake.*)
GOLAY, CHARLES - - -	1873	2nd July 1870	Improved apparatus for dressing stones to be employed for decorticating grain or seeds. (*Patented by John Henry Johnson.*)
GOLDEN, CHARLES - - -	2980	14th Nov. 1870	Breech-loading guns.
GOODALL-COPESTAKE, SAMPSON GEORGE.	2077	23rd July 1870	Combining or coupling locomotives and other railway rolling stock.
GOODAY, GEORGE ONLEY -	2731	17th Oct. 1870	An improved method of and apparatus for carrying on secret correspondence.
GOODBODY, ROBERT JAMES -	2895	3rd Nov. 1870	Improvements in the manufacture of roll tobacco also applicable to coils of tobacco.
GOODING, RICHARD ALPHAEUS	2116	28th July 1870	An improved cork drawer.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Gooding, Richard Alphaeus	2726	15th Oct. 1870	Certain improvements in mechanism or apparatus to be employed for simultaneously printing and delivering checks or tickets, consecutively numbered or otherwise, to persons entering places of amusement, riding in public vehicles, or for other purposes where checks are required as a means of detecting fraud.
Goodman, George Henry -	2239	12th Aug. 1870	Machinery for crushing, grinding and triturating stone, minerals, ores and quartz, also for washing and separating metals from ores, and for washing, separating and amalgamating gold from quartz.
Goodyear, Charles, junior -	821	19th March 1870	Machinery for sewing boots and shoes. (*Patented by William Robert Lake.*)
Goodyear, Charles, junior -	1491	23rd May 1870	Machinery for sewing boots and shoes. (*Patented by William Robert Lake.*)
Goodyear, Charles, junior -	2173	4th Aug. 1870	Machinery for sewing boots and shoes. (*Patented by William Robert Lake.*)
Goold, Gideon - - -	2	1st Jan. 1870	Spoons.
Gordon, Charles - - -	313	3rd Feb. 1870	Construction of breech-loading fire-arms.
Gordon, Charles - - -	160	19th Jan. 1870	Construction of breech-loading fire-arms.
Gordon, Charles - - -	2221	10th Aug. 1870	Construction of breech-loading fire-arms.
Gordon, David - - -	1930	7th July 1870	Improvements in machinery or apparatus for churning, which improvements are also applicable to other purposes.
Gordon, James - - -	2602	30th Sept. 1870	Signals and signalling. (*Patented by Thomas Foulkes.*)
Gordon, James Edward [Henry.	293	1st Feb. 1870	Communicating the direction of the wind from a vane to a dial or registering apparatus, by means of electric wires and without the aid of shafting.
Gordon, John, the younger -	27	4th Jan. 1870	Improvements in the manufacture of yarns and in the machinery or apparatus employed therein.
Gore, George - - -	2357	27th Aug. 1870	Improved means or apparatus for enabling tramway and other omnibuses or vehicles to run upon and leave tramrails at any point.
Goreham, William - -	99	12th Jan. 1870	Manufacture of Portland cement.
Goreham, William - -	1963	12th July 1870	Manufacture of Portland cement.
Gorman, William Augustus	638	4th March 1870	Diving dresses.
Gosling, William Henry -	1243	30th April 1870	Sewing-machines.
Gossage, William - -	1176	22nd April 1870	Improvements in the decomposition of certain metallic sulphides, and in the production of alkaline compounds, also of a compound of sulphur, by such decomposition.
Gossip, George Hatfield -	172	20th Jan. 1870	Manufacture of umbrellas and parasols.
Gotto, Henry - - -	3227	8th Dec. 1870	A wrapper for postal and other purposes.
Gotto, Henry Gaisford -	3227	8th Dec. 1870	A wrapper for postal and other purposes.
Gough, John - - - -	2844	28th Oct. 1870	Improvements in presses for relief stamping or printing, and in reservoir ink or colour rollers for regulating the flow of ink or colour therefrom.
Goulding, John - - -	1601	2nd June 1870	Carding and spinning machines. (*Patented by Alexander Horace Brandon.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GOULDING, WILLIAM - -	2329	24th Aug. 1870	Improvements in reaping and mowing machines, parts of which improvements are also applicable to other purposes.
GOZNEY, JAMES - - -	3263	13th Dec. 1870	Improvements in carriages and waggons, and relating especially to carriages and waggons to be drawn in trains on common roads by traction engines.
GRABHAM, EDWIN JOHN -	2287	18th Aug. 1870	Machinery or apparatus for goffering and fulling or wrinkling textile fabrics.
GRAHAM, THOMAS - - -	1779	22nd June 1870	Rotary engines.
GRAINGE, JOHN - - -	983	4th April 1870	Construction of kilns.
GRAMME, ZENOBE THEOPHILE	1668	9th June 1870	Magneto-electric machines.
GRANDJEAN, PIERRE - -	122	14th Jan. 1870	Improved means for warming and ventilating close carriages and boat saloons. (*Patented by Henri Adrien Bonneville.*)
GRANDJEAN, PIERRE - -	1816	27th June 1870	A new and improved apparatus for warming and ventilating carriages and boats. (*Patented by Henri Adrien Bonneville.*)
GRANHAM, FREDERICK WILLIAM.	1692	13th June 1870	Muzzles for dogs.
GRANIER, EMILE - - -	520	22nd Feb. 1870	Improvements in combination tools, which improvements are also partly applicable to scissors, pliers and such like instruments. (*Patented by Alexander Melville Clark.*)
GRANT, JOHN - - - -	2123	28th July 1870	Improvements in the arrangement of flyers, and in lifting plates, travellers and spindles or studs for spinning and doubling yarn or thread, and in the machinery or apparatus employed therein.
GRASON, THOMAS - - -	3233	9th Dec. 1870	Application of felt in making carpets, hearth-rugs, mats, cushions and such like articles.
GRASSAM, WILLIAM HENRY -	888	26th March 1870	Horse hoes.
GRATH, JOHN JAMES MC -	1920	7th July 1870	Construction of wheels.
GRAY, DANIEL - - -	848	22nd March 1870	Improvements in the manufacture of wheel tyres and in the machinery or apparatus employed therefor.
GRAY, FREDERICK - - -	2344	26th Aug. 1870	Gas lamps and other lamps.
GRAY, JOHN - - - -	1169	22nd April 1870	Ploughs.
GRAY, MATTHEW - - -	2367	29th Aug. 1870	Manufacture of marine telegraph cables.
GRAY, THOMAS - - -	1872	1st July 1870	Manufacture or purification of gas.
GRAY, WILLIAM - - -	902	28th March 1870	Manufacture of metal bushes for casks or barrels.
GREASLEY, WILLIAM - -	771	16th March 1870	Mules for spinning and doubling.
GREAVES, HENRY - - -	2094	25th July 1870	Washing-machines. (*Patented by Thomas Peek Bayes.*)
GREAVES, JAMES RICHARD -	2680	10th Oct. 1870	An improved candle.
GREAVES, WILLIAM - -	2703	13th Oct. 1870	Looms for weaving.
GREAYER, JOHN WILLIAM -	311	2nd Feb. 1870	Obtaining motive-power by means of steam.
GREEN, CHARLES EDMOND -	3116	28th Nov. 1870	Breech-loading fire-arms.
GREEN, EDWARD - - -	999	5th April 1870	Apparatus for removing soot and other deposit from the tubes of steam-boilers.
GREEN, EDWARD - - -	1416	17th May 1870	Construction and arrangement of steam-boilers.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GREEN, EDWIN - - -	1655	8th June 1870	Collar and shirt studs and other studs for fastening articles of dress.
GREEN, JOHN - - - -	3116	28th Nov. 1870	Breech-loading fire-arms.
GREEN, JONATHAN - - -	1149	20th April 1870	Improvements in the manufacture of coke and the apparatus connected therewith.
GREEN, RICHARD ANGELL -	3450	31st Dec. 1870	Earrings.
GREENFIELD, ERNEST - -	2934	7th Nov. 1870	An improved machine for cutting and printing lozenges and crackers. (*Patented by Alexander Melville Clark.*)
GREENFIELD, JOHN TYNDALE	345	7th Feb. 1870	Life buoys.
GREENFIELD, JOHN TYNDALE	380	9th Feb. 1870	An improved side arm for clearing the chambers and rifling of ordnance.
GREENHOW, JOSEPH SEELIE -	2731	17th Oct. 1870	An improved method of and apparatus for carrying on secret correspondence.
GREENSHIELDS, JAMES - -	108	13th Jan. 1870	Improvements in obtaining oil from carbonaceous substances, in utilising the bye products and residues, and in making manure and moulder's blackening.
GREENWOOD, FREDERIC ALEXANDER.	2681	10th Oct. 1870	Machinery for spinning wool and other fibrous substances.
GREENWOOD, GEORGE - -	2703	13th Oct. 1870	Looms for weaving.
GREENWOOD, GEORGE HENRY	2817	26th Oct. 1870	Construction of horse-shoes. (*Partly communicated by the late Robert Adams.*)
GREENWOOD, HENRY BICKERTON.	1412	17th May 1870	A new and improved apparatus for holding window sashes or shutters. (*Communicated by Samuel Lewis Loomis.*)
GREENWOOD, HENRY BROWN -	225	25th Jan. 1870	Electric telegraphs.
GREENWOOD, THOMAS - -	1659	8th June 1870	Machinery for drawing wool, silk, flax and other fibrous substances.
GREENWOOD, THOMAS - -	1685	11th June 1870	Sewing-machines.
GREENWOOD, THOMAS - -	1741	17th June 1870	An improvement in billiard and bagatelle cues.
GREIG, DAVID - - - -	1690	11th June 1870	A new or improved machine for dressing and separating the fibres of certain fibrous substances, the same being specially applicable for treating rhea or china-grass. (*Communicated by John Greig the younger.*)
GREIG, DAVID - - -	2627	3rd Oct. 1870	Improvements applicable to the tyres of the running wheels of road locomotives.
GREIG, DAVID - - -	2725	15th Oct. 1870	Apparatus for ploughing, harrowing and sowing land when steam power is employed.
GREIG, DAVID - - -	3263	13th Dec. 1870	Improvements in carriages and waggons, and relating especially to carriages and waggons to be drawn in trains on common roads by traction engines.
GREIG, JOHN - - - -	1690	11th June 1870	A new or improved machine for dressing and separating the fibres of certain fibrous substances, the same being specially applicable for treating rhea or china-grass. (*Communicated by John Greig the younger.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GREIG, JOHN the younger -	1690	11th June 1870	A new or improved machine for dressing and separating the fibres of certain fibrous substances, the same being specially applicable for treating rhea or china-grass. (*Patented by David Greig and John Greig.*)
GREINER, GEORGE FRIEDRICH	2155	2nd Aug. 1870	Velocipedes.
GRESTY, JONATHAN - -	1195	25th April 1870	Machinery or apparatus for separating and sorting cotton or other fibrous substances.
GREY, GEORGE - - -	2447	10th Sept. 1870	Arrangements and mechanism for preventing or providing against accidents in winding or hoisting machinery used for mines and other purposes.
GRIFFIN, GEORGE FEATHERSTONE.	1985	12th July 1870	Permanent way of railways and tramways.
GRIFFIN, JAMES THEODORE -	635	3rd March 1870	Improved means of oiling the bearings and journals of revolving shafts, spindles and pins of reaping and mowing machines. (*Communicated by Walter Abbott Wood.*)
GRIFFIN, JAMES THEODORE -	1960	11th July 1870	Reaping and mowing machines. (*Communicated by Walter Abbott Wood.*)
GRIFFIN, JAMES THEODORE -	2443	9th Sept. 1870	Reaping and mowing machines. (*Communicated by Walter A. Wood.*)
GRIFFIN, JAMES THEODORE -	3344	21st Dec. 1870	Apparatus for preventing nuts working loose in reaping and mowing machines and other machinery or apparatus. (*Communicated by Walter A. Wood.*)
GRIFFIN, TOWNSHEND - -	26	4th Jan. 1870	Attachments to be used with chains, cords, bands and such like pliable articles, especially useful amongst other purposes for securing on the person trinkets and jewellery.
GRIFFITHS, ELI HENRY - -	3082	24th Nov. 1870	Railway carriage lamps and other lamps.
GRIFFITHS, THOMAS - -	1809	25th June 1870	Improvements in machinery or apparatus for mixing and kneading dough and other ingredients, and for working the same into bread, biscuits and other pastry, and also applicable to other purposes.
GRIFFITS, JOHN - - -	2911	4th Nov. 1870	An improved method of imparting elasticity to leather, skins, cotton cloth and other similar or like articles.
GRIMES, DR. FRANKLIN THOMAS.	1585	31st May 1870	An improved ink or mucilage stand. (*Patented by William Edward Newton.*)
GRIMES, FRANKLIN THOMAS -	2050	20th July 1870	Basters for sewing-machines. (*Patented by Alfred Vincent Newton.*)
GRIMES, FRANKLIN THOMAS -	2061	21st July 1870	Lamps. (*Patented by William Edward Newton.*)
GRIMME, CHARLES - -	413	11th Feb. 1870	Improvements in sewing-machines to produce over cast and button-hole hems by means of one single needle.
GRIMME, CHARLES - -	2283	11th Aug. 1870	Improvements in sewing-machines for producing over-cast and button-hole hems with a single needle. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GRIMSHAW, THOMAS - -	526	23rd Feb. 1870	An improvement applicable to the "weft forks" used in power looms for weaving.
GRINDROD, JOHN - - -	3024	18th Nov. 1870	An improved automatic boiler feeding apparatus.
GRISWOLD, HENRY JOSIAH -	192	21st Jan. 1870	An improved toy air gun and projectile for the same. (*Patented by William Robert Lake.*)
GROSHEINZ, JEAN JACQUES -	1821	27th June 1870	Production of glucose syrup and sugar. (*Patented by William Edward Newton.*)
GROSVENOR, FREDERIC - -	2374	30th Aug. 1870	Improvements in the manufacture of certain articles in pottery and in the machinery or apparatus employed therefor.
GROUT, WILLIAM HENRY JAMES	3152	1st Dec. 1870	Construction and mode of making wheels for velocipedes, carriages and other vehicles.
GROVER, JOHN WILLIAM -	707	10th March 1870	Improvements in the rolling stock of railways and tramways, also partly applicable to ordinary vehicles.
GROVER AND BAKER SEWING [MACHINE COMPANY.	283	31st Jan. 1870	Construction of sewing-machines. (*Patented by John Henry Johnson.*)
GUARDIOLA, JOSÉ - - -	923	30th March 1870	Apparatus for evaporating sugar. (*Patented by Henry Berthon Preston.*)
GUATTARI, AUGUSTO - -	1855	30th June 1870	Improvements in telegraphy and in apparatus to be used therefor.
GUATTARI, AUGUSTO - -	3040	21st Nov. 1870	Ship signals. (*Patented by Vital de Tivoli.*)
GUENIN, EMILE - - -	1315	7th May 1870	Improvements in the manufacture of mustard and other plasters, and in machinery for the same. (*Communicated by Paul Rigollot.*)
GUEST, WILLIAM - - -	814	18th March 1870	Machinery or apparatus for the manufacture of ropes, cords and wire ropes.
GUGISPERG, DANIEL - -	1597	2nd June 1870	An improved machine for making cut-nails.
GUICHARD and SON, MESSIEURS	1458	19th May 1870	An improved mode of and apparatus for preserving butter and other similar substances. (*Patented by John Henry Johnson.*)
GÜLLICH, FRANZ FRIEDRICH -	1050	9th April 1870	Improvements in finishing linen, cotton and other fabrics, and in apparatus to be used for such purposes. (*Patented by Peter Christian Thamsen.*)
GÜNTHER, PAUL JEAN XAVIER	1119	16th April 1870	Construction of revolvers.
GUSTIN, ISAAC H. - - -	2633	4th Oct. 1870	Combined lifting and force pumps. (*Patented by George Haseltine.*)
GUY, CHARLES JOHN - -	1271	3rd May 1870	Apparatus for copying letters and other manuscripts or documents.
GUY, FREDERICK SPENCER -	1271	3rd May 1870	Apparatus for copying letters and other manuscripts or documents.
GUY, JOHN - - - - -	1271	3rd May 1870	Apparatus for copying letters and other manuscripts or documents.
GUY, THOMAS JONATHAN -	1344	11th May 1870	Apparatus for facilitating travelling on foot.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
GUYATT, WILLIAM THOMAS -	2375	30th Aug. 1870	An improved process for making railway and other tickets, trade mark labels, commercial cards or similar printed forms.
GWYNN, STUART - - -	190	21st Jan. 1870	Treatment or preparation of various natural substances so as to render them applicable for use in journal boxes and other parts of machinery, or other articles whose surfaces are intended to be subjected to friction. (*Patented by William Edward Newton.*)

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HAAGEN, CLAUS VAN - -	3366	24th Dec. 1870	Improvements in engraved or ornamented blocks or plates, in the mode or method of producing the same and in the apparatus or mechanism employed therein, which apparatus is also applicable to other useful purposes. (*Patented by John Henry Johnson.*)
HABERSHON, JOHN MATTHEW	2243	12th Aug. 1870	Treating metal wire to prevent loss of heat during rolling or reducing.
HACKER, WILHELM - -	807	18th March 1870	An improved propeller for steam navigation. (*Patented by George White.*)
HACKER, WILHELM - -	2507	17th Sept. 1870	An improved propeller for steam navigation. (*Patented by George White.*)
HACKING, WILLIAM HENRY -	3270	14th Dec. 1870	Certain improvements in self-stopping beam warping machines.
HACKNEY, WILLIAM - -	3138	30th Nov. 1870	Improvements in treating iron ores, and in processes and apparatus for the production of cast steel and malleable iron.
HACKWORTH, PINDER - -	468	17th Feb. 1870	Machinery or apparatus for dressing or working stone.
HADDAN, FRANK WILLIAM -	3326	20th Dec. 1870	Improvements in ships of war and in the working of large guns.
HADDAN, HERBERT JOHN -	959	1st April 1870	Apparatus for assisting in the pedo-locomotion of the human body.
HADDAN, HERBERT JOHN -	2353	27th Aug. 1870	Improvements in tunnelling and in machinery and apparatus therefor. (*Communicated by William Sykes.*)
HADDAN, JOHN COOPE - -	257	28th Jan. 1870	Apparatus for taking and registering votes.
HADDAN, JOHN COOPE - -	2721	15th Oct. 1870	Apparatus for taking and registering votes.
HADDAN, JOHN COOPE - -	2849	29th Oct. 1870	Improvements in street railway carriages and in permanent way for street and other railways.
HADFIELD, WILLIAM - -	390	10th Feb. 1870	Certain improvements in looms for weaving.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HADFIELD, WILLIAM - -	1781	17th June 1870	Looms for weaving.
HAGGETT, WILLIAM - -	2042	20th July 1870	Improvements in ventilating houses and buildings, ships and railway and other carriages, and increasing or decreasing the temperature thereof.
HAIGH, ISAAC - - - - -	2497	16th Sept. 1870	Certain improvements in apparatus in connection with waterclosets.
HAIGH, ISAAC, junior - -	2497	16th Sept. 1870	Certain improvements in apparatus in connection with waterclosets.
HAIGH, JOHN - - - - -	2497	16th Sept. 1870	Certain improvements in apparatus in connection with waterclosets.
HAIGH, WILLIAM BLACKETT -	1066	12th April 1870	Vertical saw frames.
HAINES, HIRAM - - -	147	18th Jan. 1870	Improvements in the manufacture of lead-encased tin pipes and in apparatus employed in such manufacture.
HALEY, JOSEPH - - -	378	9th Feb. 1870	An illuminated rotary advertising apparatus.
HALL, AUGUSTUS ROBINSON -	66	8th Jan. 1870	Construction of ships. (*Patented by James Hamilton Robinson.*)
HALL, GEORGE - - -	2585	29th Sept. 1870	Manufacture of sheet-metal rollers or drums.
HALL, HENRY ARTHUR - -	2856	31st Oct. 1870	Rolling and finishing circular metal plain or irregular rods and tubes.
HALL, JAMES - - - - -	2585	29th Sept. 1870	Manufacture of sheet-metal rollers or drums.
HALL, JOSEPH - - -	3299	17th Dec. 1870	Machinery for cutting artificial and other leather, particularly applicable for utilising waste pieces.
HALL, JULIUS - - - -	871	24th Jan. 1870	Means of and apparatus for indicating or registering goods raised or lowered in breweries, granaries, warehouses and other buildings.
HALL, ROBERT - - -	702	10th March 1870	Improved arrangements or combinations of machinery for finishing threads or yarns of cotton or other fibrous materials.
HALLAM, JOSEPH - - -	2420	6th Sept. 1870	Machinery or apparatus for forming, hardening, tempering, straightening and cutting paragon or other wires, to be used for ribs and stretchers of umbrellas or other useful purposes.
HALLAM, SAMUEL WESLEY -	2420	6th Sept. 1870	Machinery or apparatus for forming, hardening, tempering, straightening and cutting paragon or other wires, to be used for ribs and stretchers of umbrellas or other useful purposes.
HALLIDAY, THOMAS - -	1996	14th July 1870	Improvements in extracting water or other liquids from clothes or other fabrics or fibres, and in the machinery or apparatus employed therefor.
HALLIDAY, THOMAS - -	2842	28th Oct. 1870	Furnaces for boiling "worts" or other liquors.
HAMEL, FELIX JOHN - -	516	22nd Feb. 1870	Machinery for compressing artificial fuel.
HAMEL, LUDWIG - - -	1775	22nd June 1870	Improvements in the mode of producing certain colors on cotton, linen and other textile fabrics.
HAMEL, RICHARD BRUNO -	1225	28th April 1870	Mechanism for transmitting power and increasing the effectiveness of the same.
HAMER, WILLIAM - - -	2597	30th Sept. 1870	Heating and evaporating of brine in the manufacture of salt.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HAMILTON, CHARLES - -	1085	13th April 1870	Improvements in bedsteads whereby they may be rendered available as an escape in case of fire.
HAMILTON, JAMES SHOCKEY -	1215	27th April 1870	Apparatus for absorbing the overflow of oil in hydrocarbon and other lamps. (*Patented by Christopher Wood.*)
HAMILTON, JOHN - - -	2489	15th Sept. 1870	Improved appliances for extinguishing fires.
HAMILTON, JOHN - - -	2583	28th Sept. 1870	Improved polish or renovator for polished wood, papier-mâché and other furniture or articles.
HAMLIN, GEORGE B. - -	701	9th March 1870	Improvements in threshing machines and in driving mechanism for the same and for other machinery. (*Patented by William Robert Lake.*)
HAMMANT, WILLIAM - -	2870	1st Nov. 1870	A new or improved instrument for cutting off the ends of boiled eggs.
HAMMOND, HENRY - - -	1701	14th June 1870	An improved apparatus for mixing soils, chymical manures and other substances, either separately or together, and for mixing dry with semifluid substances, liquids or air. (*Communicated by Frederick Tolhausen.*)
HAMMOND, HENRY - - -	3213	7th Dec. 1870	An improved apparatus for mixing soils, chemical manures and other substances, either separately or together, and for mixing dry with semi-fluid substances, liquids or air. (*Communicated by Frederick Tolhausen.*)
HAMMOND, HENRY WOOD-[CROFT.	149	18th Jan. 1870	A new lever for changing alternate rotary motion into continuous rotary motion, and vice versâ. (*Communicated by Joseph Julien Chenal.*)
HAMMOND, HENRY WOOD-[CROFT.	778	16th March 1870	Revolving fire-arms. (*Communicated by Charles Félix de Dartien and Jules Edouard de Dartien.*)
HAMMOND, HENRY WOOD-[CROFT.	990	5th April 1870	Manufacture of iron. (*Communicated by Adam Charles Girard and Marie Etienne Jules Poulain.*)
HAMMOND, HENRY WOOD-[CROFT.	1142	19th April 1870	Manufacture of superphosphate of lime. (*Communicated by Ivar Axel Ferdinand Bang.*)
HAMMOND, HENRY WOOD-[CROFT.	1652	8th June 1870	Cartridges. (*Communicated by Chas. Felix de Dartein and Jules Edouard de Dartein.*)
HAMMOND, HENRY WOOD-[CROFT.	2000	15th July 1870	Machinery for moulding clay and other plastic materials into drain pipes and other articles. (*Communicated by Philip Syng Justice.*)
HAMMOND, JOHN - - -	499	19th Feb. 1870	Improved apparatus for washing and cleansing clothes and other textile fabrics.
HAMPSON, JOSEPH - - -	2148	2nd Aug. 1870	Buttons. (*Patented by Thomas Evans.*)
HAMPSON, SAMUEL - - -	1834	28th June 1870	Improvements applicable to mowing and reaping machines.
HANCOCK, JAMES LAMB - -	3306	17th Dec. 1870	Apparatus for removing the skin or peel from potatoes and other roots, and for removing peas and other seeds from their shells or pods.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HANDYSIDE, JAMES BAIRD -	1389	14th May 1870	Improvements in springs and in apparatus for making the same.
HANLON, WILLIAM - -	1114	16th April 1870	Improved apparatus to be employed in the performance of gymnastic exercises. (*Patented by Henry Edward Newton.*)
HANNA, DANIEL - - -	2593	30th Sept. 1870	Sewing-machines.
HANROTT, ROBERT CORY -	1032	8th April 1870	Apparatus for winding and setting watches and other timekeepers.
HANSEN, MALLING - - -	1385	14th May 1870	Means for writing and telegraphic purposes. (*Patented by Peter Jensen.*)
HANSON, JOHN - - -	353	7th Feb. 1870	Improvements in breech-loading fire-arms and in the manufacture of cartridges for the same.
HAPGOOD, ARTHUR JOHN -	676	7th March 1870	An improved machine for sweeping carpets and other floor coverings and floors, by the action of an atmospheric current. (*Patented by William Robert Lake.*)
HARCOURT, AUGUSTUS GEORGE [VERNON.	2974	12th Nov. 1870	Purification of gas.
HARCOURT, ROBERT FREDE- [RICK MULLER.	879	25th March 1870	Improved means for fastening and securing the doors of railway carriages and other doors.
HARDCASTLE, ROBERT AN- [THONY.	3110	26th Nov. 1870	Apparatus to be used in moving or transporting heavy bodies.
HARDING, —— - - -	1313	7th May 1870	An improved stamping apparatus chiefly designed for impressing names, addresses, dates and numbers, upon letters, envelopes and other papers. (*Patented by William Robert Lake.*)
HARDING, EDWARD KELLERAN	1101	14th April 1870	Knitting machines. (*Patented by William Robert Lake.*)
HARDING, GEORGE EDWARD -	220	25th Jan. 1870	Knitting-machines.
HARDING, GEORGE EDWARD -	332	5th Feb. 1870	An improved device for imparting to toothed wheels and racks, and to mechanism connected therewith, a variable reciprocating motion.
HARDING, GUSTAVUS PALMER	3234	9th Dec. 1870	Type writing machines.
HARDING, WILLIAM BISHOP -	3355	22nd Dec. 1870	Improvements in the slide valves of steam and other motive-power engines, and in apparatus connected therewith.
HARDINGHAM, GEORGE GAT- [TON MELHUISH.	1459	20th May 1870	Tobacco pipes and cigar holders.
HARDY, ROBERT M^{c} - -	1874	2nd July 1870	An improved mode of harnessing horses to carriages, gigs and other vehicles, and in the apparatus or means employed therefor.
HARDY, WILSON - - -	731	11th March 1870	An improved apparatus for the manufacture of sugar. (*Patented by John Connell.*)
HARFIELD, WILLIAM HORATIO	2104	26th July 1870	Steam windlasses and apparatus for controlling and securing chain cables.
HARGRAVE, JOHN - - -	3322	20th Dec. 1870	Railway signals.
HARGREAVES, JAMES - -	46	6th Jan. 1870	Improvements in treating sulphur, sulphide of hydrogen, pyrites and other compounds of sulphur, and in obtaining products therefrom.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HARGREAVES, JAMES - -	668	7th March 1870	Improvements in the manufacture and application of chlorine and in apparatus employed therein.
HARGREAVES, JAMES - -	1312	7th May 1870	Manufacture of chlorine.
HARGREAVES, JAMES - -	3045	21st Nov. 1870	Manufacture of sulphates of soda and potassa.
HARGREAVES, JAMES - -	3047	21st Nov. 1870	Apparatus employed or used in the manufacture of sulphates of soda and potassa.
HARGREAVES, JOHN CROSBY -	657	5th March 1870	Apparatus for burning and consuming smoke.
HARGREAVES, WILLIAM - -	3174	3rd Dec. 1870	Improvements in blowing engines and in valves for the same and applicable otherwise.
HARMAN, HARRY JONES -	2390	2nd Sept. 1870	Construction of railway chairs.
HARMAN, JAMES - - -	613	2nd March 1870	Railway carriages.
HARPER, WILLIAM PEDDIE -	2696	12th Oct. 1870	Printing metallic surfaces and metallic articles.
HARRINGTON, JOHN ROBINSON	3088	24th Nov. 1870	Improvements in carpet-linings and stair-pads, and in machinery for manufacturing the same. (*Patented by George Haseltine.*)
HARRINGTON, ROBERT - -	3173	2nd Dec. 1870	Umbrellas and parasols.
HARRIS, BENJAMIN PRESTON -	3313	19th Dec. 1870	Boats adapted for the relief of passengers and others from ships foundering at sea and for other uses.
HARRIS, HENRY - - -	2517	19th Sept. 1870	Improvements in filtering and in apparatus for the purpose.
HARRIS, ISAAC BLUE - -	2246	12th Aug. 1870	Construction of elastic tyres for wheels.
HARRIS, JOSIAH - - -	3248	12th Dec. 1870	Horse-shoes.
HARRIS, PETER - - -	196	22nd Jan. 1870	Apparatus for generating carbonic acid gas for application to the extinction and prevention of fire.
HARRIS, ROBERT - - -	196	22nd Jan. 1870	Apparatus for generating carbonic acid gas for application to the extinction and prevention of fire.
HARRIS, WILLIAM RANDAL -	1939	8th July 1870	Mode of connecting wheels and other articles to their shafts, and for coupling shafts.
HARRISON, CHARLES WEIGHTMAN.	1347	11th May 1870	Applying electricity or electro-magnetism on board ships, in order to prevent incrustation or fouling of their bottoms and the deviation of their compasses, and to produce electric light.
HARRISON, CHARLES WEIGHTMAN.	2317	23rd Aug. 1870	Improvements in fire-arms and in projectiles to be used therewith.
HARRISON, FREDERIC ARTHUR	955	1st April 1870	Certain improvements in metallic adjusters applicable for adjusting braces, garters and other articles of dress, and which said improvements are also applicable for suspending curtains or other drapery.
HARRISON, FREDERIC ARTHUR	1902	th July 1870	Manufacture of certain ornamental and useful articles such as buttons, studs or other attachments for dress, knobs for doors and drawers, chair nails, harness mounts, and for various other purposes analogous to these.
HARRISON, GEORGE - -	680	8th March 1870	Machinery for spinning and doubling.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HARRISON, GEORGE HEY -	560	25th Feb. 1870	Apparatus for lifting potatoes and other roots.
HARRISON, JOSEPH - -	2626	3rd Oct. 1870	Machinery for spinning and twisting fibrous substances.
HARRISON, SAMUEL MORTON -	2298	20th Aug. 1870	Improved means and apparatus for discharging caustic soda from pots.
HARRISON, WILLIAM CHARLTON.	891	26th March 1870	Improved means and apparatus for regulating the driving of millstones. (*Patented by Thomas James Smith.*)
HART, ALFRED HENRY - -	2840	28th Oct. 1870	Certain improved appliances to be attached to cotton reels for the ready dividing or separating the cotton as wound off, which said appliances are also applicable for the same or like purposes attached to ladies' work stands or boxes.
HART, FREDERICK - - -	1291	5th May 1870	Improvements in planes for chamfering and moulding, and in means connected with their use.
HART, JOHN MATTHIAS - -	2249	12th Aug. 1870	Locks for railway and other carriages.
HART, JOSEPH FLOWER - -	2722	15th Oct. 1870	An improved steam-washing, disinfecting and delivering machine.
HART, THOMAS - - -	2968	11th Nov. 1870	Self-acting mules.
HART, WALTER - - -	1211	27th April 1870	Manufacture of heels for boots and shoes.
HARTE, RICHARD - - -	1469	21st May 1870	Means and apparatus for effecting aërial locomotion.
HARTLEY, GEORGE - - -	13	3rd Jan. 1870	Looms for weaving.
HARTLEY, GEORGE - - -	2017	16th July 1870	Improvements in the means of securing the tabs of boots and other articles, applicable also to the ornamentation of the same, and in the machinery to be employed therein.
HARTLEY, JAMES - - -	2265	15th Aug. 1870	Apparatus for registering the number of players in the game called "pool" or other games.
HARTLEY, WILLIAM - -	302	2nd Feb. 1870	Improved means or apparatus for the manufacture of paper bags.
HARTZ, HENRY VON - -	326	4th Feb. 1870	Construction of knitting machines. (*Patented by Alfred Vincent Newton.*)
HARVEY, THOMAS - - -	2458	12th Sept. 1870	Continuous distilling apparatus for distilling petroleum and other kinds of oils. (*Communicated by Henry Francis Howell.*)
HARVEY, WILLIAM - -	2278	17th Aug. 1870	Construction of water cocks and gas cocks.
HARVEY, WILLIAM - -	2531	21st Sept. 1870	Riding saddles.
HASELTINE, GEORGE - -	2388	1st Sept. 1870	An improved apparatus for tethering horses and other animals. (*Communicated by James W. Upson.*)
HASELTINE, GEORGE - -	2397	2nd Sept. 1870	Rotary puddling furnaces. (*Communicated by Samuel Danks*).
HASELTINE, GEORGE - -	2409	3rd Sept. 1870	Flexible shafting and apparatus connected therewith for transmitting power. (*Communicated by James Beall Morrison.*)
HASELTINE, GEORGE - -	2410	3rd Sept. 1870	Improvements in the manufacture of knitted fabrics and in machinery employed therefor. (*Communicated by Henry Augustus Clark.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HASELTINE, GEORGE - -	2411	3rd Sept. 1870	An improved recording pressure-gauge and alarm apparatus. (*Communicated by Marmont B. Edson.*)
HASELTINE, GEORGE - -	2427	7th Sept. 1870	Machinery for manufacturing type. (*Communicated by William Wallace Dunn.*)
HASELTINE, GEORGE - -	2486	15th Sept. 1870	Microscopic apparatus. (*Communicated by James Lloyd Oliver.*)
HASELTINE, GEORGE - -	2615	1st Oct. 1870	An improved machine for polishing metal and other surfaces. (*Communicated by Peter Fitz Randolph, Augustus Knapp Van Horne and Henry Vroom Voorhees.*)
HASELTINE, GEORGE - -	2628	3rd Oct. 1870	An improved machine for tapping or forming the threads in metallic nuts. (*Communicated by Bradford Howland and Edward Fitch.*)
HASELTINE, GEORGE - -	2633	4th Oct. 1870	Combined lifting and force pumps. (*Communicated by Isaac H. Gustin.*)
HASELTINE, GEORGE - -	2652	6th Oct. 1870	Spring weighing scales. (*Communicated by Jean Victor Mathieu.*)
HASELTINE, GEORGE - -	2660	7th Oct. 1870	Instruments for obtaining solar measurements of latitude and time. (*Communicated by Ludwig Ignatius Trueg.*)
HASELTINE, GEORGE - -	2662	7th Oct. 1870	Bows, scarves and similar articles to be worn with collars. (*Communicated by Elizabeth H. Clarke.*)
HASELTINE, GEORGE - -	3001	16th Nov. 1870	An improved method of and apparatus for compressing metals in a liquid condition. (*Communicated by Constantine Michael Ocooneff.*)
HASELTINE, GEORGE - -	3005	16th Nov. 1870	An improved process of electro-plating iron and steel with gold or silver. (*Communicated by Alexander Lawe.*)
HASELTINE, GEORGE - -	3016	17th Nov. 1870	Safes or receptacles designed to serve as coal boxes, as show cases for shops and for other like purposes. (*Communicated by Benjamin Richard Deacon.*)
HASELTINE, GEORGE - -	3018	17th Nov. 1870	Improvements in the manufacture of steel horse-shoe nails and in machinery employed therefor. (*Communicated by Henry Mulholland.*)
HASELTINE, GEORGE - -	3067	24th Nov. 1870	Improvements in the manufacture of iron and steel, and castings of the same, and in apparatus employed therefor. (*Communicated by John Ware Middleton.*)
HASELTINE, GEORGE - -	3068	24th Nov. 1870	Improvements in carpet-linings and stair pads, and in machinery for manufacturing the same. (*Communicated by John Robinson Harrington.*)
HASELTINE, GEORGE - -	3069	24th Nov. 1870	Boots and shoes. (*Communicated by Johann Wolfgan Fisher.*)
HASELTINE, GEORGE - -	3143	30th Nov. 1870	Construction of sheet metal elbows or curved pieces for pipes or tubes. (*Communicated by Frederick Hoelige.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HASELTINE, GEORGE - -	3175	3rd Dec. 1870	An improved process of separating precious metals from lead and zinc, and apparatus employed therefor. (*Communicated by Edward Balbach, junior.*)
HASELTINE, GEORGE - -	3188	3rd Dec. 1870	Buttons. (*Communicated by George J. Capewell, Clark M. Platt and Samuel M. Porter.*)
HASELTINE, GEORGE - -	3375	24th Dec. 1870	Improved treadle mechanism chiefly designed for operating sewing-machines. (*Communicated by George Willey.*)
HASELTINE, GEORGE - -	3378	27th Dec. 1870	An improved mode of and composition for preserving fruit. (*Communicated by Samuel E. Sewall and Joseph G. Loring.*)
HASLAM, WILLIAM - - -	1614	4th June 1870	Improvements in woven fabrics applicable for towelling and other purposes, and in the method of and apparatus for weaving the same.
HATCH, G. CLIFFE - - -	800	17th March 1870	Apparatus for holding postage and other stamps for office and general uses. (*Patented by Thomas James Smith.*)
HATTERSLEY, RICHARD LONG- [DEN.	1399	16th May 1870	An improved means or method of beaming warps, or supplying warp in the weaving of fabrics for which some of the warp threads require to be of a different tension to the others.
HATTON, GEORGE - - -	2885	2nd Nov. 1870	Mechanism used for working venetian blinds and articles of such like character.
HAUSSMANN, EUGENE - -	1493	23rd May 1870	An improved case holder or receptacle for matches, and a mode of manufacturing such case holder or receptacle. (*Patented by Michael Henry.*)
HAWKINS, ALEXANDER, the [younger.	2815	26th Oct. 1870	Construction of knife-cleaning machines.
HAWKINS, CHARLES WILLSON	2858	31st Oct. 1870	Mules for spinning.
HAWKINS, FREDERICK - -	2367	29th Aug. 1870	Manufacture of marine telegraph cables.
HAWKINS, HENRY - - -	2858	31st Oct. 1870	Mules for spinning.
HAWKINS, JAMES - - -	2858	31st Oct. 1870	Mules for spinning.
HAWKINS, JOHN - - -	2858	31st Oct. 1870	Mules for spinning.
HAWKINS, JOSEPH - - -	2858	31st Oct. 1870	Mules for spinning.
HAWKSLEY, THOMAS PATON -	861	24th March 1870	Clinical thermometers.
HAWLEY, FREDERICK - -	3311	19th Dec. 1870	Apparatus for coupling and disconnecting railway carriages and trucks.
HAWORTH, RICHARD - -	254	28th Jan. 1870	Looms for weaving.
HAWORTH, RILEY LIVESEY -	2523	20th Sept. 1870	Looms for weaving.
HAY, WILLIAM - - -	234	26th Jan. 1870	Making paper.
HAY, WILLIAM JOHN - -	2318	23rd Aug. 1870	Coating metal sheating and other surfaces exposed to the action of sea water, in order to preserve them and keep them clean.
HAYES, HORACE - - -	2260	13th Aug. 1870	Improvements in treating grain preparatory to its conversion into flour, and in the machinery or apparatus employed therein.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HAYES, THOMAS RICE - -	2126	29th July 1870	Improved means for preventing the fraudulent use of bonds, receipts, cheques, tickets and other like articles.
HAYS, JOSEPH JUDGE - -	2297	20th Aug. 1870	Improvements in purifying, deodorizing and utilising sewage and other refuse and deleterious matters, and for machinery therein employed.
HAYS, JOSEPH JUDGE - -	2838	28th Oct. 1870	Treating and deodorizing sewage.
HAYWARD, HENRY - - -	604	1st March 1870	Manufacture of yarns and fabrics containing horse hair, and in means or methods for shaping and utilizing fabrics containing the same or analogous stiffening material.
HAZELHURST, GEORGE STEWARD.	2355	27th Aug. 1870	Certain improvements in looms for weaving.
HEAD, CHARLES ARTHUR -	2581	28th Sept. 1870	Pulley blocks for raising and lowering sacks and other weights.
HEAD, FREDERICK JAMES -	2618	1st Oct. 1870	Construction of cocks and valves.
HEAD, JEREMIAH - - -	1489	23rd May 1870	Setting horizontal stationary boilers.
HEALEY, BRIERLEY DENHAM	2748	19th Oct. 1870	Improvements in applying heat to steam-boilers and in apparatus therefor.
HEATH, WILLIAM EDWIN -	504	21st Feb. 1870	Gas pressure governors.
HEATH, WILLIAM EDWIN -	1481	23rd May 1870	Cooling or refrigerating beer, liquors or beverages, and apparatus therefor.
HEATON, CLEMENT - -	480	18th Feb. 1870	Means of preventing the bursting of water-pipes by the action of frost.
HEATON, JOHN - - -	1897	5th July 1870	Obtaining motive-power.
HEDDERWICK, PERCY DAVID -	1581	31st May 1870	Improvements in printing and in the machinery or apparatus employed therefor.
HEDDERWICK, PERCY DAVID -	1958	11th July 1870	A new or improved apparatus for counting paper in sheets, and in the application thereof to printing machines.
HEDDLE, JAMES - - -	1371	13th May 1870	Preparing, clarifying and preserving vegetable juices and other liquids.
HEDGES, FRANCIS ROBERT WHITCOMBE.	300	1st Feb. 1870	Morticing machines.
HEDGES, ROBERT THOMAS -	443	15th Feb. 1870	Improvements in coal plates whereby they are rendered more suitable for exhibiting advertisements.
HEIM, LOUIS - - - -	1757	20th June 1870	Blacking for boots, shoes and other articles.
HEIRONS, CHARLES - -	3136	30th Nov. 1870	An improved alarum for public and private buildings, bankers' strong rooms, safes, and other depositories intended to contain valuable property and documents.
HELBIG, WILLIAM - - -	1903	5th July 1870	Manufacture of caustic soda. (*Patented by Edward Thomas Hughes.*)
HELLINGS, NATHAN - -	1070	12th April 1870	Structures for the preservation of fruits, vegetables, meats and other perishable articles. (*Patented by John Henry Johnson.*)
HELY, ALFRED AUGUSTUS -	94	12th Jan. 1870	Apparatus for facilitating human locomotion.
HEMANS, GEORGE WILLOUGHBY.	1394	16th May 1870	A process for the recovery, purification and revivification of sulphuric acid spent and deteriorated in the refining of petroleum, coal and shale oils. (*Communicated by Michael Barrett, M.D.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HEMERY, THOMAS GEORGE -	89	12th Jan. 1870	Photography.
HEMPTINNE, AUGUSTE FERDINAND DE.	2975	12th Nov. 1870	Construction of apparatus for concentrating sulphuric acid.
HENCHMAN, HUMPHREY -	3284	15th Dec. 1870	An improved method of generating steam for the purposes of the steam-engine.
HENDERSON, ARTHUR CHARLES	1239	30th April 1870	Apparatus for breaking and crushing stones for use in macadamizing roads, for railway ballast, for employment in the manufacture of "beton" or French concretion or mortar, and for producing sand or gravel of various degrees of coarseness. (*Communicated by Claude Leon Desmolins.*)
HENDERSON, CONSTANTINE -	2393	2nd Sept. 1870	Girders to be used in bridges, subways, viaducts, railway works and every description of building and other structures.
HENDERSON, JAMES - -	318	3rd Feb. 1870	An improvement in the process of manufacturing wrought iron or steel. (*Patented by Alfred Vincent Newton.*)
HENDERSON, JAMES - -	1051	9th April 1870	An improvement in the manufacture of wrought iron and steel.
HENDERSON, JAMES - -	1544	27th May 1870	An improvement in the process of refining and purifying cast iron for foundry and for other purposes.
HENDERSON, JAMES - -	2590	29th Sept. 1870	An improvement in refining crude cast iron for foundry and other purposes.
HENDERSON, JAMES - -	2940	8th Nov. 1870	Improvements in refining cast iron for foundry purposes, and in the production of wrought iron and steel.
HENDERSON, JOSEPH - -	2036	19th July 1870	Improvements in the manufacture of iron and steel, and in furnaces to be used in such manufacture, partly applicable to the smelting of lead and copper ores.
HENDERSON, NORMAN MC FARLANE.	3310	19th Dec. 1870	Apparatus for cooling paraffin solutions or other solidifiable or partially solidifiable liquids.
HENDERSON, THOMAS - -	2996	16th Nov. 1870	Improvements in forming fringes on textile fabrics and in the machinery or apparatus employed therefor.
HENDERSON, WILLIAM - -	1370	13th May 1870	Machinery for scutching flax and other fibres.
HENDERSON, WILLIAM - -	2889	2nd Nov. 1870	Treating cast iron so as to improve and secure uniformity of quality.
HENDY, JOSHUA - - -	1555	27th May 1870	An electro-magnetic motor for sewing and other machines.
HENEAGE, ROBERT - - -	1969	12th July 1870	Improvements in drying malt, grain and other substances, and in the apparatus therefor. (*Patented by Nicholas Constantine Maximos.*)
HENGST, CHARLES - - -	3181	3rd Dec. 1870	Improvements in pulping machinery specially for cooked cereals.
HENLEY, THOMAS FREDERICK	2349	26th Aug. 1870	Machinery or apparatus for tunnelling or forming galleries in mines, quarries and other places.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HENLEY, WILLIAM THOMAS -	1017	6th April 1870	Improvements in the manufacture of non-explosive compounds forming the material for the manufacture of collodion and other substances, and in apparatus therefor.
HENLEY, WILLIAM THOMAS -	2649	6th Oct. 1870	Apparatus for the manufacture of compounds of collodion.
HENNING, THEODOR - -	215	24th Jan. 1870	An improved method of and apparatus for operating railway switches. (*Patented by William Robert Lake.*)
HENRY, ALEXANDER - -	2769	20th Oct. 1870	Breech-loading fire-arms.
HENRY, ALEXANDER - -	3257	13th Dec. 1870	A new or improved blank cartridge.
HENRY, MICHAEL - - -	716	10th March 1870	Tanning. (*Communicated by Louis André Beaudet.*)
HENRY, MICHAEL - - -	729	11th March 1870	Construction of piers, jetties and similar structures. (*Communicated by Charles Richard.*)
HENRY, MICHAEL - - -	1072	12th April 1870	Telegraphic apparatus. (*Communicated by the Société Digney, frères et compagnie.*)
HENRY, MICHAEL - - -	1493	23rd May 1870	An improved case holder or receptacle for matches, and a mode of manufacturing such case holder or receptacle. (*Communicated by Eugene Haussmann.*)
HENRY, MICHAEL - - -	1609	3rd June 1870	An improved bit. (*Communicated by Martin Camales.*)
HENRY, MICHAEL - - -	1694	13th June 1870	Spectacles, eye-glasses and like articles. (*Communicated by Eloi Eugene Narcisse Derogy.*)
HENRY, MICHAEL - - -	2412	5th Sept. 1870	Improvements in the construction of piers, jetties, docks and other similar structures, and in apparatus employed therein. (*Communicated by Charles Richard.*)
HENRY, MICHAEL - - -	2688	11th Oct. 1870	Electro-telegraphic apparatus. (*Communicated by the Société Digney, frères et Compagnie.*)
HENSMAN, JOHN - - -	1931	7th July 1870	Agricultural drills.
HENSON, HENRY HENSON -	3075	24th Nov. 1870	A new or improved manufacture of fences, paling and such like enclosures of sheet-iron and other metal.
HENTSCHEL, AUGUST - -	2464	13th Sept. 1870	Manufacture of casting blocks and printing blocks used for heliographic and other printing.
HEPPEL, JOHN MORTIMER -	2218	10th Aug. 1870	Apparatus for working railway switches and signals.
HERBERT, HENRY - - -	672	7th March 1870	Boxes for containing furs and protecting them from the ravages of insects.
HERBST, ALEXANDER - -	415	11th Feb. 1870	Apparatus for drying sugar. (*Patented by William Robert Lake.*)
HERRING, EDWARD - -	2969	11th Nov. 1870	Manufacture of alkalized isinglass, sulphited and bisulphited. (*Communicated by Baylis Child.*)
HERRING, RICHARD - -	2845	28th Oct. 1870	Telegraphic printing apparatus.
HESS, MORRIS - - -	2195	6th Aug. 1870	An improved fastener for leggings.
HEVERIN, JAMES LAWS - -	1823	27th June 1870	Improvements in treating and distilling petroleum, and in apparatus employed therein. (*Patented by Robert Kell.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HEWARD, JAMES LOCKWOOD -	2711	14th Oct. 1870	Machinery for the manufacture of nails.
HEWITT, HEZEKIAH - -	2561	24th Sept. 1870	Metallic pens and penholders.
HEYCOCK, EDWIN - - -	1620	4th June 1870	Belts or suspenders for wearing-apparel.
HIBBERT, GEORGE - - -	2029	19th July 1870	Machinery or apparatus for printing boulinikon, linoleum, kamptulicon, cork, carpet, corium, oil and other floor-cloths, baizes, leather cloths, oiled and other papers, india-rubber goods, woollen, cotton, linen and other textile fabrics.
HICK, GEORGE WILLIAM -	2187	6th Aug. 1870	Apparatus for separating, cleaning and classifying coal, ore, grain and other solid substances.
HICK, GEORGE WILLIAM -	3251	12th Dec. 1870	Apparatus for moulding or shaping clay and other plastic materials for the production of bricks, tiles and other articles.
HICKLEY, THOMAS ALLEN -	921	30th March 1870	Improved apparatus for steering ships. (*Communicated by James Porter and Herbert Perkins.*)
HICKMOTT, JOSEPH BRYAN -	1285	5th May 1870	Improvements in the manufacture of gas and coke, and in the apparatus to be employed in the same manufacture.
HIGGINS, WILLIAM - -	1057	11th April 1870	Manufacture of hackney carriage and other lamps, tablets and similar articles, for the purpose of exhibiting advertisements.
HIGGINS, WILLIAM, jun^{r}. -	2955	10th Nov. 1870	Manufacture of street and carriage indicators.
HIGGS, THOMAS - - -	2071	22nd July 1870	Gas regulators.
HIGHTON, HENRY, M.A. - -	2568	26th Sept. 1870	An improved method of preserving meat, fish and other alimentary substances.
HIGNETTE, JEAN JULES - -	1381	14th May 1870	Apparatus for dressing, glazing and pearling rice, wheat, barley or other grain. (*Partly communicated by Eugène Barrabé.*)
HIGSON, JAMES - - -	1834	28th June 1870	Improvements applicable to mowing and reaping machines.
HILL, AUSTIN - - - -	2329	24th Aug. 1870	Improvements in reaping and mowing machines, parts of which improvements are also applicable to other purposes.
HILL, AUSTIN - - - -	2343	26th Aug. 1870	Horse shoes.
HILL, EDWARD JACOB - -	1007	6th April 1870	Improved apparatus for slipping and depositing parcels and packages or other objects.
HILL, ERNEST - - -	492	19th Feb. 1870	Machinery for engine turning or engraving metallic or other surfaces. (*Communicated by Eugine Darier.*)
HILL, HENRY - - - -	3399	30th Dec. 1870	Improvements in deodorizing and purifying sewage, urine and refuse matters and liquids, and in making manure therefrom, and in apparatus for those purposes.
HILL, JOHN - - - -	2564	29th Sept. 1870	Machinery for cutting wood and partly applicable to hand braces.
HILL, JOHN GEORGE HENRY -	1820	27th June 1870	Fastenings for elastic stockings, stays, corsets, bandages and other articles of dress or wearing-apparel.
HILL, JOHN GEORGE HENRY -	1939	28th June 1870	Fans.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HILL, LAURENCE - - -	454	16th Feb. 1870	Improved safety apparatus for locomotives and brake wagons.
HILL, RICHARD - - -	2981	14th Nov. 1870	Improvements in the manufacture of wire, which improvements are also applicable in the manufacture of other metallic articles in the production of which the process of annealing forms a part.
HILL, WILLIAM - - -	2811	26th Oct. 1870	Machinery or apparatus for beating and cleansing carpets, rugs and other articles.
HILLÈ, FRITZ - - -	3167	2nd Dec. 1870	Improvements in the manufacture of deodorizing and disinfecting compounds, and in the treatment of sewage and impure waters, and in closets and apparatus for the treatment of sewage.
HILLER, JACOB FRIEDRICH -	2155	2nd Aug. 1870	Velocipedes.
HILLMAN, WILLIAM - -	2236	11th Aug. 1870	Improvements in the construction of wheels applicable chiefly to velocipedes and in the driving gear for such vehicles.
HILLS, FRANK CLARKE - -	510	21st Feb. 1870	Improvements in the manufacture of gas and in obtaining residual products from such manufacture, and in apparatus to be used in such manufacture.
HILLS, FRANK CLARKE - -	659	5th March 1870	Sea-going vessels.
HILTON, ROBERT JOHN - -	2888	2nd Nov. 1870	Machinery for manufacturing tobacco.
HIND, HENRY - - -	1477	21st May 1870	Steam and other valves.
HINDE, THOMAS CALLENDER -	3099	25th Nov. 1870	Improvements in the manufacture of iron and steel, and in furnaces and apparatus to be used in the said manufacture, parts of which improvements may also be applied to other purposes.
HINES, EDWARD - - -	2181	5th Aug. 1870	Improvements in metallic eyelets and in shanks to buttons.
HINKLEY KNITTING MACHINE [COMPANY (Incorporated).	2180	4th Aug. 1870	Knitting machines. (*Patented by William Robert Lake.*)
HIPKISS, JOSEPH - - -	661	5th March 1870	Sad irons and other smoothing irons.
HIPKISS, RICHARD - - -	3023	18th Nov. 1870	Improvements in hardening steel pens and other steel articles, and in apparatus employed for that purpose.
HITCHCOCK, THOMAS - -	2993	15th Nov. 1870	Apparatus for producing motive-power.
HOBSON, ALFRED MILNES -	979	2nd April 1870	Improvements in velocipedes, parts of which improvements are applicable to machinery generally.
HOCKEY, JOHN - - -	818	19th March 1870	Ventilating lights.
HOCKING, FRANKLIN - -	191	21st Jan. 1870	A new or improved means of securing or fastening the leaves in music periodicals and books, applicable for securing together papers of various kinds, and samples and patterns.
HODGE, WILLIAM JOHN - -	311	2nd Feb. 1870	Obtaining motive-power by means of steam.
HODGERT, SAMUEL - -	3084	24th Nov. 1870	Hydraulic presses for pressing cotton, jute and other fibrous substances. (*Patented by Saint John Vincent Day.*)
HODGETTS, EPHRAIM WILLIAM	1606	3rd June 1870	Improvements in rick cloths or covers, and in apparatus for supporting rick cloths or covers.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HODGKIN, JOHN ELIOT - -	3307	19th Dec. 1870	Improvements in the process of extracting oil from olives or olive cakes, and in machinery to be employed therefor.
HODGKINSON, GEORGE - -	1424	18th May 1870	Manufacture of toilet quilts, toilet or table covers, quiltings and the like articles.
HODGKINSON, HENRY - -	1862	30th June 1870	Velocipedes.
HODGSON, CHARLES - -	1	1st Jan. 1870	Improvements in the manufacture of compound rivetted bands of iron, steel or other metal, to be used as a substitute for wire ropes, and in the formation of pullies to be used therewith.
HODGSON, JAMES - - -	271	31st Jan. 1870	The better arrangement of railway time tables and called by the title "improvements in railway time tables and bills."
HODGSON, JOHN - - -	2689	11th Oct. 1870	Looms for weaving.
HODSON, THOMAS - - -	1461	20th May 1870	Manufacture of piled fabrics.
HOE, RICHARD MARCH - -	2330	24th Aug. 1870	Printing machinery. (*Patented by William Edward Newton.*)
HOE, RICHARD MARCH - -	2368	29th Aug. 1870	Improvements in lithographic printing machines, and in apparatus for grinding or preparing the surface of the stones used for lithographic purposes. (*Patented by William Edward Newton.*)
HOELTGE, FREDERICK - -	3143	30th Nov. 1870	Construction of sheet metal elbows or curved pieces for pipes or tubes. (*Patented by George Haseltine.*)
HOEVEN, DIRK ADREAAN TER	1716	15th June 1870	Improvements in the treatment and in the employment of certain animal substances to be used as fertilizing agents. (*Patented by John Henry Johnson.*)
HOFFGAARD, JOHN FRYDEN-[DAHL.	1835	28th June 1870	Construction of pipes for smoking. (*Communicated by H. M. Assam.*)
HOFFMAN, JOHN WILLIAM -	1902	5th July 1870	Manufacture of certain ornamental and useful articles, such as buttons, studs or other attachments for dress, knobs for doors and drawers, chair nails, harness mounts, and for various other purposes analogous to these.
HOFFMAN, JOHN WILLIAM -	2795	24th Oct. 1870	Manufacture of the cutting tools or laps used by glasscutters, lapidaries and other similar handicraftsmen.
HOGG, JAMES ALLISON - -	2322	23rd Aug. 1870	Construction of miners' or safety lamps.
HOGG, JAMES ALLISON, the [younger.	645	4th March 1870	Construction of safety lamps used in mining, colliery and other underground operations.
HOLBOROW, ETHELBERT -	1959	11th July 1870	Window sash fasteners.
HOLCROFT CHARLES - -	1882	2nd July 1870	Improvements in mine cages and in lifts for warehouses, hotels and for other places, and in apparatus connected with the said cages and lifts.
HOLCROFT, GEORGE - -	667	7th March 1870	Preparing and treating auriferous and argentiferous ores.
HOLCROFT, GEORGE - -	3176	3rd Dec. 1870	Certain improvements in engines worked by steam and other elastic fluids, and in valves.
HOLCROFT, THOMAS - -	1956	11th July 1870	Manufacture of nails and spikes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HOLCROFT, WILLIAM - -	3368	24th Dec. 1870	The utilization of waste materials used in the manufacture of earthenware, in the manufacture of artificial manure.
HOLDEN, EDWARD - - -	1896	5th July 1870	Apparatus employed in preparing and combing wool and other fibres.
HOLDEN, JAMES BROWER -	1225	28th April 1870	Mechanism for transmitting power and increasing the effectiveness of the same.
HOLDEN, JAMES JOHN - -	565	25th Feb. 1870	Apparatus for charging and discharging gas retorts and for other similar purposes.
HOLDER, THOMAS - - -	1596	2nd June 1870	An improved elastic sandcrack boot or hoof covering for horses.
HOLDING, JOSEPH - - -	916	29th March 1870	"Temples" employed in looms for weaving.
HOLDING, JOSEPH - - -	2669	8th Oct. 1870	Certain improvements in looms for weaving.
HOLDSWORTH, GEORGE - -	775	16th March 1870	Improvements in preparing and producing drawings or designs upon squares or ruled design paper, for manufacturing and other purposes, and for protecting and preserving the same from injury.
HOLDSWORTH, JOHN - -	212	22nd Jan. 1870	Apparatus and mechanical means for excavating, filling in, transporting and discharging grain, seeds and other materials.
HOLLAND, CHARLES MENZIES	2277	17th Aug. 1870	Rotary engines.
HOLLEY, ALEXANDER LYMAN	1784	22nd June 1870	Apparatus for making Bessemer steel.
HOLLINS, MICHAEL DAINTRY	2524	20th Sept. 1870	Manufacture of metal plates employed for flat printing and other analogous purposes.
HOLLINS, SAMUEL - - -	2534	21st Sept. 1870	Deodorization and utilization of sewage or other feculent or putrescent matter, whether in a solid, fluid or semi-fluid state.
HOLMAN, STEPHEN - - -	3	1st Jan. 1870	Apparatus for hinging, adjusting and fastening gas retort lids, covers or doors, and other lids, covers and doors.
HOLMES, ARTHUR - - -	2396	2nd Sept. 1870	Improved construction of wheels for gun carriages, carts and other vehicles.
HOLMES, EDWIN - - -	2876	1st Nov. 1870	Improvements applicable to safes, vaults and other structures for containing valuable property, and in alarm apparatus or telegraphs connected therewith. (*Patented by William Edward Newton.*)
HOLMES, FREDERICK - -	2319	23th Aug. 1870	Pumps.
HOLMES, GEORGE - - -	333	5th Feb. 1870	Manufacture or production of gloves.
HOLMES, HERBERT - -	2396	2nd Sept. 1870	Improved construction of wheels for gun carriages, carts and other vehicles.
HOLMES, ISAAC - - -	141	17th Jan. 1870	Apparatus for adjusting and securing the knobs or handles of locks, latches and other fastenings.
HOLMES, NATHANIEL JOHN -	301	2nd Feb. 1870	Application of inextinguishable signal lights for marine and other purposes. (*Partly communicated by Ferdinand Silas.*)
HOLSTE, CARL - -	1926	7th July 1870	Manufacture of pots or crucibles used in glass furnaces. (*Communicated by Hugo Stimpfl and Johann Stenger.*)
HOLT, BARNARD - - -	1642	7th June 1870	Improvements in carriage and other wheels, being also applicable to horse shoes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Holt, Edward - - -	3387	29th Dec. 1870	Steam pumping engines.
Homan, Julius - - -	782	16th March 1870	Construction of railway and other waggons.
Hopes, Thomas - - -	3339	21st Dec. 1870	An improved lubricating composition and apparatus for applying the same.
Hopkin, Daniel - - -	738	12th March 1870	An improved clog for roughing horses.
Hopkins, Thomas Meredith	2045	20th July 1870	Improved means for drying substances impregnated with moisture.
Hopkins, William Jeffrey -	1718	15th June 1870	Construction of roofs and sides of houses and other structures.
Hopkins, William Jeffrey -	3317	19th Dec. 1870	Machinery or apparatus for the cultivation of land and for other purposes.
Hopkinson, John - - -	900	28th March 1870	Improvements in or applicable to machinery for spinning and twisting fibrous substances.
Hopkinson, John - - -	3236	9th Dec. 1870	An improved combined hopper and weighing machine for shipping coal and other similar materials.
Hopkinson, John Addy -	718	11th March 1870	Direct-acting steam-engine indicators.
Hopkinson, John Addy -	1446	19th May 1870	Improved means or apparatus for admitting and regulating the supply of air to steam-boiler and other furnaces.
Hopkinson, John Addy -	2954	10th Nov. 1870	Safety valves.
Hopkinson, Joseph - -	692	9th March 1870	An improved arrangement of furnace and boiler for the generation of steam.
Hopkinson, Joseph, junior -	718	11th March 1870	Direct-acting steam-engine indicators.
Hopkinson, Joseph, junior -	1446	19th May 1870	Improved means or apparatus for admitting and regulating the supply of air to steam-boiler and other furnaces.
Hopkinson, Joseph, junior -	2954	10th Nov. 1870	Safety valves.
Horn, Edward Kirk - -	1705	14th June 1870	Apparatus for ventilating ships and for extinguishing fires on board same. (*Patented by George Wells.*)
Horne, Augustus Knapp Van	2615	1st Oct. 1870	An improved machine for polishing metal and other surfaces. (*Patented by George Haseltine.*)
Horner, James - - -	3221	8th Dec. 1870	Soap cutting machines.
Hornsby, Richard - -	2847	29th Oct. 1870	Ploughs.
Horridge, Thomas - -	1004	6th April 1870	Improved means of communicating between the passengers and guard upon railway trains.
Horsey, John George - -	3145	30th Nov. 1870	An improved method in the manufacture of brushes and brooms.
Horsfall, Jonathan Wright	1515	25th May 1870	Ventilating mines.
Horsfield, William Harle -	1978	13th July 1870	A new description of knife steel for instantly imparting an uniform keen edge on table knives, butchers' knives and large knives generally.
Horton, William - -	1529	26th May 1870	Centre-bits.
Hosken, James - - -	1868	1st July 1870	Mast-head lights, lanterns or lamps.
Hosking, John - - -	3249	12th Dec. 1870	Steam-boilers.
Hotckkiss, B. B. - - -	1143	19th April 1870	Cartridges for breech-loading fire-arms. (*Patented by William Robert Lake.*)
Hough, George - - -	2643	5th Oct. 1870	Apparatus for ventilating stoke holes and engine rooms of steam ships.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HOUGHTON, WILLIAM - -	392	10th Feb. 1870	Machinery or apparatus for dressing warps of wool or other fibrous substances and twine.
HOUNSELL, WILLIAM - -	3081	24th Nov. 1870	Improvements in the manufacture of curved metal pipes and in apparatus employed therein.
HOUPT, JOHN - - - -	1152	20th April 1870	Condensers for marine steam-engines. (*Patented by William Robert Lake.*)
HOUPT, JOHN - - - -	2678	10th Oct. 1870	Steam-engines. (*Patented by William Robert Lake.*)
HOWARD, FREDERICK JOSEPH	3217	7th Dec. 1870	Manufacture of horse-shoes.
HOWARD, HENRY - - -	2069	22nd July 1870	An improved positive differential motion.
HOWARD, JAMES - - -	1071	12th April 1870	Ploughs.
HOWARD, JAMES - - -	1343	11th May 1870	Construction of hand signal lamps.
HOWARD, JAMES - - -	2295	19th Aug. 1870	Machinery for cutting grass and corn.
HOWARD, JAMES - - -	2898	3rd Nov. 1870	Ploughs.
HOWARD, JAMES - - -	3206	6th Dec. 1870	Improved means for securing the joints of steam-boilers and tubes.
HOWARD, JOHN - - -	2758	20th Oct. 1870	The manufacture of a powder from beet, carrot, parsnip, mangold wurzel or other saccharine roots, to be used as a substitute for chicory for mixing with coffee, or for seperate uses as a beverage boiled or infused, and which he designates granule.
HOWARTH, ELI - - -	2495	16th Sept. 1870	Connecting the ends of straps or belts.
HOWATSON, ANDREW - -	3337	21st Dec. 1870	Improved furnaces for melting and puddling iron or steel, and for heating iron, steel and other metals.
HOWELL, HENRY FRANCIS -	2458	12th Sept. 1870	Continuous distilling apparatus for distilling petroleum and other kinds of oils. (*Patented by Thomas Harvey.*)
HOWLAND, BRADFORD - -	2628	3rd Oct. 1870	An improved machine for tapping or forming the threads in metallic nuts. (*Patented by George Haseltine.*)
HOYLE, EZRA - - - -	1138	19th April 1870	Apparatus or means of manipulating gold leaf for ornamenting and lettering.
HOYLE, JOHN - - - -	2783	22nd Oct. 1870	An improved anti-friction metal for the bearings and steps of shafts, axles, engines and machinery.
HOYLE, WILLIAM - - -	2626	3rd Oct. 1870	Machinery for spinning and twisting fibrous substances.
HUBBELL, AUGUSTUS - -	143	18th Jan. 1870	A novel arrangement and construction of gas-burner. (*Patented by Theodore Byron Hubbell.*)
HUBBELL, THEODORE BYRON -	143	18th Jan. 1870	A novel arrangement and construction of gas-burner. (*Communicated by Augustus Hubbell.*)
HUBNER, EMILE - - -	104	12th Jan. 1870	Improved apparatus for preparing fibrous substances for spinning. (*Patented by Alfred Vincent Newton.*)
HUCHARD, PIERRE - - -	2313	22nd Aug. 1870	Improvements in cord making and in the apparatus connected therewith.
HUCKVALE, THOMAS - -	2706	13th Oct. 1870	Bridles.
HUDDART, GEORGE AUGUSTUS	552	24th Feb. 1870	Construction of the permanent way of railways.
HUDDART, GEORGE AUGUSTUS	949	31st March 1870	Construction of railways.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HUDDART, GEORGE AUGUSTUS	2445	9th Sept. 1870	Construction of the permanent way of railways.
HUDSON, ROBERT - - -	1791	23rd June 1870	Mode of manufacture of cloth.
HUGHAN, WILLIAM HENRY -	67	8th Jan. 1870	Treatment of night soil, sewage, urinous superphosphates, gas lime refuse and other refuse matters, for the purpose of deodorizing, of obtaining manure, and of diluting acids with urinous mixtures.
HUGHES, EDWARD THOMAS -	157	19th Jan. 1870	Improved apparatus for diminishing the effects of the oscillation of vessels and for preventing sea-sickness. (*Communicated by Lorenzo Dow Newell.*)
HUGHES, EDWARD THOMAS -	159	19th Jan. 1870	Looms for weaving. (*Communicated by Isaac Edwin Newton.*)
HUGHES, EDWARD THOMAS -	544	24th Feb. 1870	Machinery for manufacturing nails. (*Communicated by Daniel Reed, Royal Moulton Bassett and Theodore Sheldon Bassett.*)
HUGHES, EDWARD THOMAS -	796	17th March 1870	Lithographic, zincographic and other printing presses. (*Communicated by Charles Parker.*)
HUGHES, EDWARD THOMAS -	1697	13th June 1870	Improved methods of preparing pure carbonate and bicarbonate of soda, and also soda in its crystallized state. (*Communicated by Moritz Konigmann.*)
HUGHES, EDWARD THOMAS -	1903	5th July 1870	Manufacture of caustic soda. (*Communicated by William Helbig.*)
HUGHES, EDWARD THOMAS -	2363	29th Aug. 1870	An improved process for forming vacuum in freezing apparatus. (*Communicated by Charles Parker.*)
HUGHES, EDWARD THOMAS -	2693	12th Oct. 1870	Dressing or sizing warp threads or yarns of wool, cotton and other fibrous materials. (*Communicated by Louis Schönherr.*)
HUGHES, EDWARD THOMAS -	2820	27th Oct. 1870	Outlet or jet pipes of fire-engines, high pressure mains and other apparatus. (*Communicated by Jan Anthony Muller.*)
HUGHES, EDWARD THOMAS -	3183	3rd Dec. 1870	Sewing-machines. (*Communicated by David Whittemore.*)
HUGHES, HENRY - - -	2030	19th July 1870	Formation of roadways, pavements and such like surfaces. (*Patented by John Edward Hughes.*)
HUGHES, HESKETH - -	354	7th Feb. 1870	Improvements in the manufacture of trimmings or edgings and in apparatus in connection therewith.
HUGHES, HESKETH - -	917	29th March 1870	Improvements in reducing metal rods, bars and tubes, and in apparatus in connection therewith.
HUGHES, HESKETH - -	2300	20th Aug. 1870	Improved manufacture of trimmings, edgings, ruchings, plaiting and other similar goods.
HUGHES, HESKETH - -	3379	27th Dec. 1870	Improved means of and apparatus for securing the corners and other parts of millinery and other boxes and reels.
HUGHES, JOHN - - -	1653	8th June 1870	Safety cages for mines and shafts.
HUGHES, JOHN EDWARD -	2030	19th July 1870	Formation of roadways, pavements and such like surfaces. (*Communicated by Henry Hughes.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HUGHES, ROBERT - - -	1590	1st June 1870	Improved apparatus for scraping and cleansing streets and roads.
HUGHES, ROBERT BALLS -	3013	17th Nov. 1870	Road and other rollers.
HUGHES, WALTER WATSON -	74	10th Jan. 1870	Furnaces.
HULL, JOHN - - - -	2029	19th July 1870	Machinery or apparatus for printing boulinikon, linoleum, kamptulicon, cork, carpet, corium, oil and other floor-cloths, baizes, leather cloths, oiled and other papers, india-rubber goods, woollen, cotton, linen and other textile fabrics.
HULL, MAURICE CHAPMAN -	1163	21st April 1870	Heating stoves or furnaces.
HULME, SAMUEL - - -	505	21st Feb. 1870	Machines for removing paint from wood.
HUMBLE, ROBERT - - -	2498	16th Sept. 1870	Life-boats. (*Patented by William Robert Lake.*)
HUMPHREYS, HENRY TEMPLE	88	12th Jan. 1870	A new and improved system of constructing railroads with jaunting cars and posts and rail ways.
HUMPHREYS, HENRY TEMPLE	388	10th Feb. 1870	Improvements in railways and in rolling stock to be used therewith.
HUMPHRYS, JAMES - - -	1989	14th July 1870	Steam-engines.
HUNT, BRISTOW - - -	304	2nd Feb. 1870	Watches. (*Communicated by Louis Auguste Etienne-Guyot.*)
HUNT, BRISTOW - - -	461	17th Feb. 1870	Reaping and mowing machines. (*Communicated by Louis Alexis Coutelet.*)
HUNT, BRISTOW - - -	882	25th March 1870	Valves. (*Communicated by Gerard Sickels and John Hill Thorndike.*)
HUNT, BRISTOW - - -	1323	9th May 1870	Means or method of securing or locking screw bolts and nuts. (*Communicated by Robinson Rutter.*)
HUNT, BRISTOW - - -	1390	14th May 1870	Shirts. (*Communicated by Isaac Merritt Singer.*)
HUNT, BRISTOW - - -	1415	17th May 1870	Manufacture of certain pigments or paints. (*Communicated by Marc Antoine François Mennons.*)
HUNT, BRISTOW - - -	1501	24th May 1870	Mechanism for fastening French or folding windows at any desired point when partially opened. (*Communicated by Edward Vansittart Neale.*)
HUNT, BRISTOW - - -	1584	31st May 1870	A new or improved electro-magnetic apparatus for moving panoramas, advertisements or other things required to be exhibited. (*Communicated by Louis Finger.*)
HUNT, BRISTOW - - -	1682	11th June 1870	An improved joint for water, gas and steam pipes. (*Communicated by Henri Alexandre Roche.*)
HUNT, BRISTOW - - -	1967	12th July 1870	Process of and apparatus for carburetting gases or atmospheric air, so as to render the same applicable for lighting, heating or producing motive-power. (*Communicated by Emile Charles Maillet.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HUNT, BRISTOW - - -	2392	2nd Sept. 1870	Machinery for washing wool. (*Communicated by John Yewdall and William Yewdall.*)
HUNT, BRISTOW - - -	2417	6th Sept. 1870	Improvements in washing wool and other textile materials, and in apparatus to be employed for such purpose. (*Communicated by Auguste Féron-Flamant.*)
HUNT, BRISTOW - - -	2805	25th Oct. 1870	Horse-shoes. (*Communicated by Ebenezer Cate.*)
HUNT, BRISTOW - - -	2950	9th Nov. 1870	Means or method of securing or locking screw bolts and nuts. (*Communicated by Robinson Rutter.*)
HUNT, CHARLES - - -	1410	17th May 1870	Retorts and retort settings.
HUNT, FREDERIC - - -	2881	1st Nov. 1870	A trousers protector or guard adapted more particularly for muddy weather.
HUNT, JOSHUA - - -	2924	5th Nov. 1870	An improved buoyant mattress designed to serve either as a bed or a life preserver. (*Patented by William Robert Lake.*)
HUNT, RICHARD - - -	481	18th Feb. 1870	An improved apparatus or receptacle for storing and for withdrawing wine or other liquids, part of which apparatus is also applicable wherever a tap may be required.
HUNT, WILLIAM - - -	1331	10th May 1870	A new or improved detergent compound to be used in the manufacture of soap, and for cleansing wool and woollen goods, and for other like purposes.
HUNTER, GEORGE - - -	1202	26th April 1870	Stone-cutting apparatus.
HUNTER, JAMES - - -	3187	3rd Dec. 1870	Blast furnaces.
HUNTER, JAMES - - -	3327	20th Dec. 1870	Improvements in blast furnaces and in the employment of the waste gases thereof.
HUNTER, JOHN - - -	2067	21st July 1870	Softening fibrous substances when batching, spinning or twisting them.
HUNTER, WILLIAM - -	224	25th Jan. 1870	Looms for weaving textile fabrics.
HUNTRISS, GEORGE - -	2217	10th Aug. 1870	Means or apparatus for supplying mines and other places with lighting gas.
HURD, FREDERICK - - -	571	26th Feb. 1870	Machinery for excavating coal, stone and other minerals, and for compressing air.
HURDMAN, GEORGE - -	2455	10th Sept. 1870	Improvements in the handles of sad irons or smoothing irons, stew pans, saucepans, frying pans and other articles of hollow ware, and in connecting the said handles to the said articles respectively.
HURST, AMBROSE MAUDE -	223	25th June 1870	Improvements in the manufacture of tablets, facias, signs and similar articles, and in the means of producing names, numerals, inscriptions and devices for ornament, advertisement, illumination and other similar purposes.
HURTAULT, LAURENT - -	1588	31st May 1870	Improvements in the manufacture of soles and heels for boots and shoes, and in apparatus employed in such manufacture. (*Patented by William John Barron and Edmund Charles Barron.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HUSBAND, WILLIAM - -	749	15th March 1870	Improvements in atmospheric stamps and hammers, partly applicable to other purposes.
HUSBAND, WILLIAM - -	2011	16th July 1870	Improvements in pneumatic stamps and hammers, also applicable to machinery for driving piles, cutting, splitting or dressing stone, and for boring rocks.
HUSSEY, DANIEL - - -	1767	21st June 1870	Slasher sizing machines. (*Patented by John Bullough.*)
HUSSON, JOSEPH RODERICK -	2083	23rd July 1870	Apparatus for the manufacture of gas. (*Patented by William Edward Newton.*)
HUSSON, JOSEPH RODERICK -	2642	5th Oct. 1870	Working of galvanic batteries. (*Patented by Alfred Vincent Newton.*)
HUTCHESON, JOHN - - -	3111	26th Nov. 1870	Improvements in dressing yarns or warps, and in the mechanism or apparatus employed therefor. (*Patented by Saint John Vincent Day.*)
HUTCHIN, GEORGE - - -	2298	20th Aug. 1870	Improved means and apparatus for discharging caustic soda from pots.
HUTCHINSON, JOHN BACKHOUSE.	1824	27th June 1870	Making of carriage, cart and other wheels.
HUTCHINSON, JOHN BACKHOUSE.	1825	27th June 1870	Improvements in making wooden skewers, and in the machinery, apparatus and means to be employed therein.
HUTCHINSON, SAMUEL - -	823	19th March 1870	Machinery for scouring and shaving hides, skins or leather.
HUTCHINSON, WILLIAM NELSON.	1276	4th May 1870	Improvements in the existing iron rails of railways and of tramways, and in the construction of rails for future lines of railways and tramways.
HUTCHINSON, WILLIAM NELSON.	2134	30th July 1870	Improvements in the existing iron rails of railways and of tramways, and in the construction of rails for future lines of railway and tramways.
HUTCHINSON, WILLIAM NELSON.	3205	6th Dec. 1870	Improved means of attaching top plates or bars to railway rails.
HUTCHISON, ROBERT - -	1937	8th July 1870	Bleaching and improving vegetable and animal oils and fats.
HUTHNANCE, HENRY - -	2707	13th Oct. 1870	Ordnance and projectiles therefor.
HUTSON, CHARLES EMERY -	235	26th Jan. 1870	Improvements in furnace grates and in apparatus connected therewith, for heating water for steam-boilers and for other like purposes. (*Patented by William Robert Lake.*)
HUTSON, CHARLES EMERY -	2112	27th July 1870	Improvements in furnace grates and in apparatus connected therewith, for heating water for steam-boilers and for other like purposes. (*Patented by William Robert Lake.*)
HUTSON, HENRY ALLERTON -	213	22nd Jan. 1870	Mowing and reaping machines. (*Patented by William Robert Lake.*)
HYAMS, MICHAEL - - -	1305	7th May 1870	Improving the sanitary construction of tobacco pipes, arranged for the purpose of entirely preventing the nicotine juice from entering the mouth of the smoker, and to form means of egress for such juice.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
HYATT, ISAIAH S. - - -	2101	26th July 1870	An improved method of manufacturing solid collodion and moulding the same into articles of any desired form. (*Patented by William Robert Lake.*)
HYATT, JOHN W., junior - -	2101	26th July 1870	An improved method of manufacturing solid collodion and moulding the same into articles of any desired form. (*Patented by William Robert Lake.*)
HYATT, THEODORE - - -	1289	5th May 1870	Safes, chests, bank vaults and other like structures. (*Patented by John Henry Johnson.*)
HYATT, THEODORE - - -	2755	20th Oct. 1870	Construction of illuminating and ventilating roofs and gratings or plates, parts of which are applicable to ordinary foot ways and carriage ways. (*Patented by John Henry Johnson.*)
HYATT, THEODORE - - -	3112	28th Nov. 1870	Improvements in the manufacture of corrugated and embossed glass, and in the application of the same to the purposes of illumination. (*Patented by John Henry Johnson.*)
HYATT, THEODORE - - -	3195	5th Dec. 1870	Illuminating gratings for roads, streets and other ways and for floors and roofs generally. (*Patented by John Henry Johnson.*)
HYDE, FRANCIS - - -	1766	21st June 1870	Process and apparatus for making soap. (*Patented by Benjamin Joseph Barnard Mills.*)
HYDE, JOHN MOORE - -	3300	17th Dec. 1870	Armour plated ships, forts, fortifications and gun shields.
HYDE, MOSES - - - -	1766	21st June 1870	Process and apparatus for making soap. (*Patented by Benjamin Joseph Barnard Mills.*)
HYDES, THOMAS - - -	1901	5th July 1870	Improved methods of connecting together the vertical and horizontal bars of iron hurdles, palisading and other kinds of fencing.
HYDES, THOMAS - - -	3135	30th Nov. 1870	Construction of furnaces for preventing or lessening smoke and effecting more perfect combustion of the fuel employed therein.
HYNAM, JOHN - - -	1865	1st July 1870	Manufacture of friction lights.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.

I.

Ibbotson, Alfred Bucking-[ham	55	6th Jan. 1870	Construction of joints for uniting and securing the ends of railway rails.
Ibbotson, Alfred Bucking-[ham.	101	12th Jan. 1870	Improvements in rails, chairs and joints for the permanent way of railways, and in machinery for manufacturing such rails.
Ilwham, James Mc - -	2763	20th Oct. 1870	Machinery for making wrought iron railway sleepers, and applicable for shaping metals for other purposes.
Imray, John - - - -	403	11th Feb. 1870	Improvements in subaqueous communications and apparatus for effecting the same.
Imray, John - - - -	2721	15th Oct. 1870	Apparatus for taking and registering votes.
Ingall, Charles - - -	1905	6th July 1870	Storing petroleum and other inflammable or explosive liquids.
Ingham, John - - -	2376	31st Aug. 1870	An improved table-fork.
Inglefield, Edward Augus-[tus.	1327	10th May 1870	Steering tell-tales for vessels.
Inglis, William - - -	1131	19th April 1870	Steam-engines.
Inglis, William - - -	3174	3rd Dec. 1870	Improvements in blowing engines and in valves for the same and applicable otherwise.
Ingram, George - - -	1284	5th May 1870	Improved apparatus for regulating the lift of railway and other carriage windows.
Ingram, John - - -	2207	9th Aug. 1870	Breech-loading fire-arms.
Intosh, James Anderson Mc	1871	1st July 1870	Distilling oils.
Intosh, Oliver Trumbull Mc	1867	1st July 1870	Boat-detaching apparatus. (*Patented by William Robert Lake.*)
Intyre, Peter Mc- - -	3149	1st Dec. 1870	Shirts.
Ireland, William Carlton	1764	21st June 1870	Improvements in fastenings or connections for securing the cables and standing rigging of ships and for other like purposes. (*Patented by William Robert Lake.*)
Irvine, Charles Dopping -	1094	14th April 1870	Velocipedes. (*Patented by Joseph Plaskitt.*)
Irwin, John Henry - -	1485	23rd May 1870	Mode of supplying lamps or lanterns with atmospheric air for supporting their illuminating flames. (*Patented by Martin Benson.*)
Isaac, Thomas Mc - - -	1127	18th April 1870	An improved folding bed table for the use of invalids and others.
Isham, William - - -	2024	18th July 1870	Apparatus for economising and purifying gas.
Ivernois, Eardley Louis [Charles D'.	1668	9th June 1870	Magneto-electric machines.
Ivernois, Eardley Louis [Charles D'.	1917	7th July 1870	An improvement in the means for producing electric light.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Ivor, William Mac - -	3020	18th Nov. 1870	Improvements in treating hydrocarbons and other oils, and in the machinery or apparatus employed therefor.
Ivory, Thomas - - -	2285	18th Aug. 1870	Improvements in motive-power engines, which improvements are also in part applicable as brakes and dynamometers.

J.

Jack, Alexander - - -	2019	18th July 1870	A new or improved agricultural implement specially adapted for digging potatoes and other similar root crops.
Jackman, Joseph - - -	3361	23rd Dec. 1870	Attaching picks and other tools or implements to handles.
Jackson, Arthur - - -	2014	16th July 1870	Improved means of supplying boilers with water.
Jackson, Charles - -	726	11th March 1870	Improvements in vulcanizers or apparatus employed in vulcanizing india-rubber, which improvements may also be applied to the regulation of the flow of gas for various purposes.
Jackson, Charles Howard -	2269	16th Aug. 1870	An improved mode of treating or preparing clay, lime, chalk, and other matters, with carbolic acid, to produce a disinfectant and an insect or vermin repeller, and in apparatus for that purpose. (*Patented by Henry Bradley.*)
Jackson, Francis - - -	3350	22nd Dec. 1870	Construction of equilibrium slide valves.
Jackson, Henry - - -	966	2nd April 1870	Apparatus for drying grain, malt, roots, spent malt or hops, megass or spent sugar cane, wool and other substances.
Jackson, Henry - - -	967	2nd April 1870	Mills for crushing and grinding. (*Partly communicated by Charles Ross and John Ross.*)
Jackson, John Broad - -	1633	6th June 1870	Rag engines.
Jackson, Murray - - -	1047	9th April 1870	Improved machinery applicable for inland navigation. (*Patented by William Edward Newton.*)
Jackson, Peter Rothwell -	1338	11th May 1870	Construction of segmental toothed wheels.
Jackson, Richard Brooker	854	23rd March 1870	Construction of iron wine bins.
Jackson, William - -	3220	8th Dec. 1870	Construction of breakwaters, sea-walls, piers, jetties and other similar constructions.
Jackson, William Gray -	1942	8th July 1870	Certain improvements in the manufacture of cordials.
Jacob, Michael - - -	1714	15th June 1870	Means or apparatus employed for retaining the windows of railway or other carriages, or other windows when raised or lowered, in any desired position.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
JACOBS, ISAAC - - -	2978	12th Nov. 1870	Penholders and pens.
JACOBSOHN, SÉBASTIEN - -	1893	4th July 1870	Frames for porte-monnaies, pocket books, cigar cases and similar articles. (*Patented by William Edward Gedge.*)
JAHN, ALFREDO - - -	3335	21st Dec. 1870	Steam-boilers. (*Patented by Robert Boyd.*)
JAITE, GUSTAV - - -	765	15th March 1870	An improved telegraph.
JAKINS, ISAAC NEGUS - -	2314	23rd Aug. 1870	Improved apparatus for assisting invalids or bed ridden persons in or removing from beds.
JAMES, GEORGE HENRY - -	1013	6th April 1870	Cases for cigars and other articles.
JAMES, JABEZ - - -	1595	2nd June 1870	Apparatus for compressing gunpowder and other substances into pellets.
JAMES, JABUS STANLEY - -	246	27th Jan. 1870	Machines for putting together the parts of cart and other wheels.
JAMES, JOSIAH - - -	1013	6th April 1870	Cases for cigars and other articles.
JAMES, WILLIAM - - -	2238	12th Aug. 1870	Improved mechanical arrangements for drawing off liquids from beer casks, barrels and other vessels.
JAMISON, SAMUEL W. - -	806	18th March 1870	Crimping machines. (*Patented by John Henry Johnson.*)
JANICOT, CHARLES - - -	802	18th March 1870	Producing photographic pictures on tissues or fabrics.
JARMAN, HENRY - - -	3192	5th Dec. 1870	Steering apparatus.
JARVIE, NEDRICK - - -	2949	9th Nov. 1870	Improvements in or connected with furnaces for boilers, evaporating vessels and stills.
JEAN, CLOVIS - - - -	884	25th March 1870	An improved weighing cart or carriage for ascertaining the weight of coal, wood or other wares.
JEAVONS, JOSHUA - - -	711	10th March 1870	Manufacture of armour plates and other heavy forms of malleable iron or steel, or of steel and iron combined.
JEAVONS, JOSHUA - - -	869	24th March 1870	Improvements in the manufacture of armour plates and in the machinery or apparatus employed in such manufacture.
JEFFERIES, JOHN ROBERT -	662	5th March 1870	Double furrow and other ploughs.
JEFFERIES, JOHN ROBERT -	1622	4th June 1870	Ploughs.
JEFFERS, ALBERT - - -	500	19th Feb. 1870	A new and useful machine for moulding, rounding, channelling and stamping the soles of boots and shoes.
JEFFERSON, MORDECAI - -	1228	29th April 1870	Machinery or apparatus for preparing and combing wool or other fibrous substances.
JEFFS, EDWARD JAMES - -	131	15th Jan. 1870	Improvements in apparatus for recording the number of passengers who travel in omnibuses or other vehicles, together with the value of the fares paid by such passengers, applicable to other purposes.
JEINSEN, ERNEST VON - -	2294	19th Aug. 1870	Improved methods of effecting the lubrication of and exclusion of dust from carriage axle journals and other bearings, and in apparatus or mechanical devices employed therefor. (*Patented by William Robert Lake.*)
JEINSEN, ERNEST VON - -	2797	24th Oct. 1870	Automatic lubricators.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
JEINSEN, ERNEST VON - -	3165	2nd Dec. 1870	Axles and axle-boxes for wheeled vehicles. (*Patented by William Robert Lake.*)
JENKS, BARTON HOWARD -	907	28th March 1870	Pumps or apparatus for raising water and sand, mud or other disintegrated substances. (*Patented by William Edward Newton.*)
JENNINGS, THOMAS - -	2647	6th Oct. 1870	Revolving and other heels for boots and shoes. (*Communicated by Joseph Read.*)
JENSEN, PETER - - -	52	6th Jan. 1870	Means for closing or fastening neckties, stocks, cuffs and other objects. (*Communicated by Emile Victor Pages.*)
JENSEN, PETER - - -	1385	14th May 1870	Means for writing and telegraphic purposes. (*Communicated by Malling Hansen.*)
JENSEN, PETER - - -	1797	24th June 1870	Apparatus for indicating the speed of vessels and the velocity of running water. (*Communicated by Ferdinand Julius, Baron of Wedel-Jarlsberg.*)
JESTY, WILLIAM - - -	1096	14th April 1870	Composition for coating ships' bottoms and other like purposes, also applicable to stone and other building materials.
JEWELL, WILLIAM HENRY -	2153	2nd Aug 1870	Improved lubricating packing for railway carriage journals. (*Patented by William Robert Lake.*)
JOHNSON, ALFRED - - -	1632	6th June 1870	Improvements in or applicable to milling or fulling and washing machines.
JOHNSON, ASA - - -	1566	28th May 1870	Improvements in machinery for corrugating and moulding sheet metal, which improvements are also applicable for other purposes. (*Patented by Alexander Melville Clark.*)
JOHNSON, BRYAN - - -	614	2nd March 1870	Hydraulic cranes or apparatus for raising, hauling and lowering weights.
JOHNSON, DAVID - - -	2569	26th Sept. 1870	Machinery for decorticating and cleaning grain.
JOHNSON, HENRY - - -	1328	10th May 1870	Locking screw bolts and nuts.
JOHNSON, JAMES - - -	2191	6th Aug. 1870	Paints and pulverizer therefor.
JOHNSON, JAMES - - -	3191	5th Dec. 1870	Improvements in the construction of spindles and flyers for roving and slubbing frames, and in tools or machinery for making the same.
JOHNSON, JOHN HENRY - -	54	6th Jan. 1870	Heating apparatus. (*Communicated by Jules Henry Weibel.*)
JOHNSON, JOHN HENRY - -	75	10th Jan. 1870	Improvements in bleaching wool and silk, which improvements are applicable also for fixing blue colors. (*Communicated by Jean Baptiste Frezon the elder.*)
JOHNSON, JOHN HENRY - -	81	11th Jan. 1870	Apparatus for puddling iron, applicable also as tuyeres for metallurgical furnaces generally. (*Communicated by Auguste Ponsard.*)
JOHNSON, JOHN HENRY - -	153	18th Jan. 1870	Treatment of acid tars obtained from bog-head mineral, schist or petroleum. (*Communicated by Gervais Chevrier.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
JOHNSON, JOHN HENRY - -	221	25th Jan. 1870	Method of applying anti-friction rollers to wheels and other parts of machinery. (*Communicated by William Bonham Scott.*)
JOHNSON, JOHN HENRY - -	283	31st Jan. 1870	Construction of sewing-machines. (*Communicated by The Grover and Baker Sewing-Machine Company.*)
JOHNSON, JOHN HENRY - -	284	31st Jan. 1870	Motive-power engines and steam generators to be used therewith, suitable for domestic purposes. (*Communicated by Hippolyte Fontaine.*)
JOHNSON, JOHN HENRY - -	315	3rd Feb. 1870	Gas and other pressure regulators. (*Communicated by Henri Giroud.*)
JOHNSON, JOHN HENRY - -	474	17th Feb. 1870	Apparatus for lighting applicable also for signalling purposes. (*Communicated by Auguste Prosper Berlioz.*)
JOHNSON, JOHN HENRY - -	498	19th Feb. 1870	Obtainment or production of oxygen gas. (*Communicated by Paul Brocchi.*)
JOHNSON, JOHN HENRY - -	536	23rd Feb. 1870	Machinery or apparatus for straining paper pulp. (*Communicated by Jules Mathieu.*)
JOHNSON, JOHN HENRY - -	564	25th Feb. 1870	Construction and arrangement of mechanism for actuating sewing and other machines worked by a treadle. (*Communicated by Charles Henry Willcox.*)
JOHNSON, JOHN HENRY - -	618	2nd March 1870	Enamels for pottery, earthenware and crockery. (*Communicated by Joseph Boës and Louis Esprit Joseph Gallibert.*)
JOHNSON, JOHN HENRY - -	710	10th March 1870	Improvements in the manufacture of wheel tires, hoops, bands and such like articles, and in the machinery or apparatus employed therein. (*Communicated by Hippolyte Ulysse Petin and Jean Marie Gaudet.*)
JOHNSON, JOHN HENRY - -	724	11th March 1870	Machinery or apparatus for combing and straightening flax, hemp, jute and other fibrous substances. (*Communicated by Alberic Benoit Masurel the younger.*)
JOHNSON, JOHN HENRY - -	762	15th March 1870	Apparatus for governing or regulating the speed of motive-power engines and for indicating the power of the same. (*Communicated by Jacques Théophile Gautreau.*)
JOHNSON, JOHN HENRY - -	784	16th March 1870	Improvements in the construction of roads and ways and in the materials employed therein, which materials are also applicable to other purposes for which asphalte is generally employed. (*Communicated by Léopold Wiart.*)
JOHNSON, JOHN HENRY - -	806	18th March 1870	Crimping machines. (*Communicated by Samuel W. Jamison.*)
JOHNSON, JOHN HENRY - -	847	22nd March 1870	Improvements in locomotion and in the means to be employed therein. (*Communicated by Nicolas Joly.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
JOHNSON, JOHN HENRY - -	896	26th March 1870	Machinery or apparatus for compressing, forming and extracting moisture from peat, clay and other materials. (*Communicated by Thomas Ellis and William Alonzo Ellis.*)
JOHNSON, JOHN HENRY - -	904	28th March 1870	Wrenches. (*Communicated by George Carpenter Taft.*)
JOHNSON, JOHN HENRY - -	928	30th March 1870	Improvements in the production of artificial fuel and in apparatus to be employed for such purpose. (*Communicated by the Anthracite Fuel Manufacturing Company, Incorporated.*)
JOHNSON, JOHN HENRY - -	943	31st March 1870	Preparation of soluble phosphates of lime. (*Communicated by Ernest Deligny.*)
JOHNSON, JOHN HENRY - -	1070	12th April 1870	Structures for the preservation of fruits, vegetables, meats and other perishable articles. (*Communicated by Nathan Hellings.*)
JOHNSON, JOHN HENRY - -	1155	20th April 1870	A new or improved hardening composition and its employment with india-rubber, gums and oils. (*Communicated by John Ballou Newbrough.*)
JOHNSON, JOHN HENRY - -	1165	21st April 1870	Improvements in reaping and mowing machines, and in apparatus for sharpening the cutters of such machines. (*Communicated by Auguste Bernard Albaret.*)
JOHNSON, JOHN HENRY - -	1288	5th May 1870	Treatment of maize. (*Communicated by H. Cavayé and Company.*)
JOHNSON, JOHN HENRY - -	1289	5th May 1870	Safes, chests, bank vaults and other like structures. (*Communicated by Theodore Hyatt.*)
JOHNSON, JOHN HENRY - -	1358	12th May 1870	An improved construction and arrangement of grate bars. (*Communicated by Jonathan Cone and John McEldery.*)
JOHNSON, JOHN HENRY - -	1360	12th May 1870	Projectiles. (*Communicated by Abiatha Fales Potter.*)
JOHNSON, JOHN HENRY - -	1401	16th May 1870	Manufacture of bearings, slides and packings for steam-engines and other machinery. (*Communicated by Eliza Dexter Murfey.*)
JOHNSON, JOHN HENRY - -	1458	19th May 1870	An improved mode of and apparatus for preserving butter and other similar substances. (*Communicated by Messieurs Guichard and Son.*)
JOHNSON, JOHN HENRY - -	1503	24th May 1870	Machinery or apparatus for making metal cop tubes. (*Communicated by James Eaton.*)
JOHNSON, JOHN HENRY - -	1624	4th June 1870	Furnaces for metallurgical purposes. (*Communicated by Auguste Ponsard.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
JOHNSON, JOHN HENRY - -	1660	8th June 1870	Improvements in producing light from heavy hydro-carbons and in apparatus for that purpose. (*Communicated by Rufus Spaulding Merrill.*)
JOHNSON, JOHN HENRY - -	1709	15th June 1870	Machinery or apparatus for pressing and forming heels for boots and shoes and for other like purposes. (*Communicated by Horace Holley Bigelow.*)
JOHNSON, JOHN HENRY - -	1716	15th June 1870	Improvements in the treatment and in the employment of certain animal substances to be used as fertilizing agents. (*Communicated by Dirk Adreaan Ter Hoeven.*)
JOHNSON, JOHN HENRY - -	1771	21st June 1870	Improvements in railways and in the engines and carriages to run thereon. (*Communicated by François Maurice Marin.*)
JOHNSON, JOHN HENRY - -	1873	2nd July 1870	Improved apparatus for dressing stones to be employed for decorticating grain or seeds. (*Communicated by Charles Golay.*)
JOHNSON, JOHN HENRY - -	1900	5th July 1870	Improvements in evaporating and boiling or concentrating liquids, and in apparatus employed therein. (*Communicated by Jean François Cail.*)
JOHNSON, JOHN HENRY - -	1981	13th July 1870	Improvements in carpets and in machinery or apparatus for manufacturing the same. (*Communicated by William Wallace and Charles McAllister.*)
JOHNSON, JOHN HENRY - -	1997	14th July 1870	Improvements in packings and in bearing surfaces, and in the preparation or treatment of materials composing the same. (*Communicated by Eliza Dexter Murfey.*)
JOHNSON, JOHN HENRY - -	2065	21st July 1870	Production of sulphuric and hydrochloric acids, of carbonates of potash and soda, and also of chlorine. (*Communicated by Haydon Mozart Baker.*)
JOHNSON, JOHN HENRY - -	2066	21st July 1870	Explosive projectiles and fuses. (*Communicated by Eugene Pertuiset.*)
JOHNSON, JOHN HENRY - -	2103	26th July 1870	Weigh beams for platform weighing-machines. (*Communicated by Michael Kennedy.*)
JOHNSON, JOHN HENRY - -	2212	9th Aug. 1870	Improvements in the extraction of juice from sugar cane and in apparatus employed therein. (*Communicated by Jean François Cail.*)
JOHNSON, JOHN HENRY - -	2433	8th Sept. 1870	Improvements in pipe joints or couplings, applicable also to couplings for rods and shafting. (*Communicated by William Clare Allison.*)
JOHNSON, JOHN HENRY - -	2663	7th Oct. 1870	Improvements in bearings, packings for shafts, spindles, rods and other like pieces of machinery, and in materials employed in the manufacture of such bearings and packings. (*Communicated by Eliza Dexter Murfey.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
JOHNSON, JOHN HENRY - -	2755	20th Oct. 1870	Construction of illuminating and ventilating roofs and gratings or plates, parts of which are applicable to ordinary footways and carriage ways. (*Communicated by Theodore Hyatt.*)
JOHNSON, JOHN HENRY - -	2765	20th Oct. 1870	Construction of bridges. (*Communicated by Charles Shaler Smith, Charles Hazlehurst Latrobe and Frederick Henry Smith.*)
JOHNSON, JOHN HENRY - -	2866	31st Oct. 1870	Manufacture of acids and alkaline salts. (*Communicated by Haydn Mozart Baker.*)
JOHNSON, JOHN HENRY - -	2879	1st Nov. 1870	Improvements in boxes and bearings for axles and other shafts, and in compositions to be applied thereto. (*Communicated by Eliza Dexter Murfey.*)
JOHNSON, JOHN HENRY - -	3050	21st Nov. 1870	Breech-loading fire-arms. (*Communicated by Benjamin Franklin Joslyn and Benjamin Tomes.*)
JOHNSON, JOHN HENRY - -	3067	23rd Nov. 1870	Vessels and appliances connected therewith for carrying liquid cargoes in bulk. (*Communicated by William Gray Warden.*)
JOHNSON, JOHN HENRY - -	3086	24th Nov. 1870	Earth-closets. (*Communicated by William Harrison Newton.*)
JOHNSON, JOHN HENRY - -	3112	28th Nov. 1870	Improvements in the manufacture of corrugated and embossed glass, and in the application of the same to the purposes of illumination. (*Communicated by Theodore Hyatt.*)
JOHNSON, JOHN HENRY - -	3194	5th Dec. 1870	A new composition for bleaching wool and cotton. (*Communicated by William Joseph Lande.*)
JOHNSON, JOHN HENRY - -	3195	5th Dec. 1870	Illuminating gratings for roads, streets and other ways, and for floors and roofs generally. (*Communicated by Theodore Hyatt.*)
JOHNSON, JOHN HENRY - -	3253	12th Dec. 1870	Preservation of meat and other animal matters. (*Communicated by Eugene Pelouze.*)
JOHNSON, JOHN HENRY - -	3366	24th Dec. 1870	Improvements in engraved or ornamented blocks or plates, in the mode or method of producing the same and in the apparatus or mechanism employed therein, which apparatus is also applicable to other useful purposes. (*Communicated by Claus Van Haagen.*)
JOHNSON, JOHN ROBERT -	201	22nd Jan. 1870	Preparation of paper or other surfaces for the production or manufacture of pictures by photography.
JOHNSON, MATTHEW - -	2007	15th July 1870	Ploughs.
JOHNSON, ROBERT THOMAS [YEADON.	1679	10th June 1870	Rotary engines and pumps.
JOHNSON, SIDNEY - - -	3077	24th Nov. 1870	Velocipede carriages and vehicles.
JOHNSON, WILLIAM - -	980	4th April 1870	Sheet metal saddle-trees.
JOHNSON, WILLIAM JAMES -	2074	23rd July 1870	Apparatus for condensing metallic and other fumes, gases and smoke.
JOHNSTON, FRANCIS - -	1876	2nd July 1870	Looms for weaving.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
JOHNSTON, WILLIAM OLIVER -	2242	12th Aug. 1870	Production of cast-iron pipes, columns and other similar castings.
JOHNSTONE, JOHN STUART -	629	3rd March 1870	A new or improved motive-power engine.
JOLY, NICOLAS - - -	847	22nd March 1870	Improvements in locomotion and in the means to be employed therein. (*Patented by John Henry Johnson.*)
JONAIS, ALFR D COURVOISIER	123	15th Jan. 1870	Double-faced watches.
JONES, DAVID - - - -	1524	26th May 1870	Manufacture and treatment of coal gas for illuminating purposes.
JONES, DAVID - - - -	2054	20th July 1870	Door fastenings.
JONES, DAVID ISAAC - -	2537	21st Sept. 1870	Rolling mills. (*Patented by Alexander Melville Clark.*)
JONES, EDWARD JOSEPH -	2937	8th Nov. 1870	A new machine for grinding, polishing and concaveing circular and other saws, and other tools and substances.
JONES, EDWARD PUGH - -	1073	12th April 1870	Brakes and starting apparatus for railway carriages. (*Patented by William Robert Lake.*)
JONES, EDWARD PUGH - -	1074	12th April 1870	Improvements in whiffle-trees and in devices employed therewith for readily connecting and disconnecting horses and vehicles. (*Patented by William Robert Lake.*)
JONES, EDWARD PUGH - -	2273	17th Aug. 1870	An improved fastener or "tie" for metallic bands employed in securing bales or packages of cotton or other matters packed under pressure. (*Patented by Edward Arthur O'Brien.*)
JONES, EDWIN FRANCIS - -	1409	17th May 1870	Manufacture of iron.
JONES, FREDERICK FRANCIS -	2913	4th Nov. 1870	Improvements in puddling furnaces and in the preparation and application of certain materials for building and fettling the same.
JONES, GEORGE - - -	490	19th Feb. 1870	Construction of furnaces to effect consumption of smoke and saving of fuel.
JONES, HENRY - - -	92	12th Jan. 1870	Breech-loading fire-arms.
JONES, HENRY - - -	2546	22nd Sept. 1870	Improved apparatus for holding and delivering twine or cord.
JONES, HENRY, jun^{r}. - -	3303	17th Dec. 1870	Whist markers.
JONES, HERBERT JOHN - -	2570	26th Sept. 1870	Improvements in the construction of drain pipes, and in the mode of obtaining access thereto for forming connections therewith or for cleansing or examining the same.
JONES, JAMES - - - -	1332	10th May 1870	A new or improved metallic alloy for the bearings or brasses of shafts, axles of carriages and other rotating bodies.
JONES, JAMES GRAFTON - -	1147	19th April 1870	Slide valves.
JONES, JOHN - - - -	2896	3rd Nov. 1870	An improved means or apparatus for raising and lowering windows, particularly applicable to railway and other carriage windows.
JONES, JOHN WARD - -	1346	11th May 1870	Fastenings for windows, doors and other similar purposes.
JONES, PERCIVAL - - -	2515	19th Sept. 1870	Manufacture of table ornaments known as "plateaux."
JONES, RICHARD - - -	1009	6th April 1870	Preservation of animal and vegetable substances to be used as food.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
JORDAN, JOHN - - -	2717	14th Oct. 1870	Construction of furnaces for burning coals or other combustibles.
JOSEPH, CHARLES - - -	1082	13th April 1870	Filters. (*Communicated by Frederick C. Krause.*)
JOSEPH, CHARLES - - -	1733	17th June 1870	Gas-burners. (*Communicated by Frederick Charles Krause.*)
JOSEPH, CHARLES MENDEL -	3071	24th Nov. 1870	Filters. (*Communicaed by Thomas Simmons.*)
JOSLYN, BENJAMIN FRANKLIN	3050	21st Nov. 1870	Breech-loading fire-arms. (*Patented by John Henry Johnson.*)
JOWETT, BENJAMIN - -	1739	17th June 1870	A new or improved self-acting indicator or machine for shewing the times of trains to arrive at and depart from railway stations, points and crossings, for the better prevention of accidents, applicable also for other purposes.
JOWETT, GEORGE - - -	200	22nd Jan. 1870	Water or other liquid or fluid meters.
JOY, DAVID - - - -	844	22nd March 1870	Means and apparatus for increasing the efficiency of steam generators.
JOY, WILLIAM LOMAS - -	3074	24th Nov. 1870	Improvements in the method of charging oil seed presses, and the apparatus and envelopes therein employed.
JULIUS, FERDINAND, BARON OF [WEDEL-JARLSBERG.	1797	24th June 1870	Apparatus for indicating the speed of vessels and the velocity of running water. (*Patented by Peter Jensen.*)
JUSTICE, PHILIP SYNG - -	2000	15th July 1870	Machinery for moulding clay and other plastic materials into drain pipes and other articles. (*Patented by Henry Woodcroft Hammond.*)

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KAGENBUSCH, PETER -	3190	5th Dec. 1870	Means of extracting or separating metals from their silicates.
KARUTH, FRANK OSCAR- -	3252	12th Dec. 1870	Improvements in the manufacture of cigars, cigarettes and similar articles, and in the preparation of materials for the purpose.
KAY, ALEXANDER - - -	733	12th March 1870	Construction of railways and tramways and other ways for conveyances to move upon.
KAY, ROBERT HENRY - -	864	24th March 1870	Manufacture of crape.
KAY, ROBERT HENRY - -	1220	28th April 1870	Manufacture of crape.
KAY, THOMAS BISPHAM - -	275	31st Jan. 1870	Carding-engines for carding cotton and other fibrous substances.
KAY, WILLIAM - - -	1672	9th June 1870	A new or improved machine for washing and cleansing floors and other surfaces.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
KEAN, JAMES ASBURY Mc -	1104	14th April 1870	An improved machine for drilling or boring rocks, chiefly designed for working mines, tunnels and quarries, and for submarine operations. (*Patented by William Robert Lake.*)
KEARSLEY, CHARLES - -	572	26th Feb. 1870	Apparatus for communicating between the guards, drivers and passengers of railway trains.
KEATES, JOSEPH ANDREW -	2204	9th Aug. 1870	Improvements in the production of certain metallic alloys and in furnaces employed in the process.
KEATS, JOHN - - - -	1685	11th June 1870	Sewing-machines.
KEELY, THOMAS - - -	816	19th March 1870	Manufacture of looped fabrics.
KEEN, MORRIS LONGSTRETH -	3392	29th Dec. 1870	Improvements in paper stock and means or method of making paper pulp from wood, straw, cane, esparto grass, flax, flax tow, hemp, hemp tow, jute, jute tow, Manilla rope or Manilla tow and all analogous material or vegetable substances, and in the treatment of materials used therein and in apparatus for treating the same. (*Patented by Samuel Armstrong Walsh.*)
KEIGHLEY, JOHN - - -	3140	30th Nov. 1870	Looms for weaving.
KEIRBY, EDWARD - - -	3301	17th Dec. 1870	Improvements in fog or danger signals, and in a novel method of laying the same in position and in removing the same when exploded or not used.
KELL, ROBERT - - -	1823	27th June 1870	Improvements in treating and distilling petroleum, and in apparatus employed therein. (*Communicated by James Laws Heveris and James Lloyd Bewley.*)
KELLEN, SAMUEL DUNSEITH [Mc.	745	14th March 1870	Certain improvements in watches and other time-keepers.
KELLETT, JOSEPH - - -	2442	9th Sept. 1870	Improvements in or applicable to the knobs or handles of locks and latches.
KEMPE, ARTHUR - - -	2518	19th Sept. 1870	Machinery for raising the pile on woollen and other cloths.
KEMPE, WILLIAM - - -	2518	19th Sept. 1870	Machinery for raising the pile on woollen and other cloths.
KENDALL, JOSEPH - - -	585	28th Feb. 1870	Indicators for steam-boilers.
KENNEDY, HENRY - - -	1174	22nd April 1870	Mode of securing ridges of slate or other material to the roofs of buildings.
KENNEDY, MICHAEL - -	2103	26th July 1870	Weigh-beams for platform weighing-machines. (*Patented by John Henry Johnson.*)
KENNEDY, WILLIAM WEMYSS	3320	20th Dec. 1870	Sewing-machines.
KENNEY, CHARLES - -	1618	4th June 1870	Facilitating the mounting a horse or velocipede or bicycle or other vehicle.
KENT, EDWARD ROBERTS -	1848	29th June 1870	Improvements in and apparatus for preserving animal and vegetable substances. (*Patented by Edward Griffith Brewer.*)
KENT, GEORGE - - -	100	12th Jan. 1870	Rotary knife-cleaning and polishing machines.
KENT, GEORGE - - -	825	19th March 1870	An improved combined carving-fork and knife sharpener.
KENYON, JAMES - - -	357	8th Feb. 1870	Construction of pickers for looms.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
KENYON, JAMES - - -	2682	11th Oct. 1870	Certain improvements in looms for weaving.
KENYON, JOHN - - -	3259	13th Dec. 1870	An improved method for "securing" the nuts on bolts.
KENYON, JOHN WILLIAM -	2923	5th Nov. 1870	Steam-boilers or generators.
KENZIE, ALEXANDER MC -	2579	28th Sept. 1870	Improved mechanical arrangements for raising and lowering or opening and closing the heads of carriages and vehicles.
KEPPLER, ADAM - - -	306	2nd Feb. 1870	Propellers.
KERNAUL, MICHAEL HEINRICH	3377	27th Dec. 1870	Sewing-machines.
KERR, JOHN - - - -	77	11th Jan. 1870	Improved apparatus for discharging water from steam pipes.
KERR, JOHN - - - -	1502	24th May 1870	Improved apparatus for discharging water from steam pipes.
KERSHAW, JOHN - - -	295	1st Feb. 1870	Improvements in india-rubber manufactures and in tools or machinery employed therein.
KERSHAW, JOHN - - -	1938	8th July 1870	Certain improvements in looms for weaving.
KESTERTON, HENRY - -	1980	13th July 1870	Improvements in the manufacture of iron tubes and in machinery employed therein, applicable also to the manufacture of tubes of other metals.
KESTERTON, HENRY - -	3156	1st Dec. 1870	Improvements in the manufacture of taper tubes and rods and in apparatus employed therein.
KIDD, EDWARD - - -	2506	17th Sept. 1870	An improved water guage.
KIDD, JOHN HOWARD - -	245	27th Jan. 1870	Construction and manufacture of wheels for vehicles.
KIDD, JOHN HOWARD - -	1247	2nd May 1870	Shoes for horses and other animals.
KILNER, JAMES MAZE - -	175	20th Jan. 1870	Improvements in apparatus for the passage and control of cables and other chains, and in apparatus for auxiliary propulsion.
KIMBALL, HIRAM - - -	1549	27th May 1870	Safety attachments for steam generators. (*Patented by Benjamin Joseph Barnard Mills.*)
KING, HENRY JAMES HOGG -	1484	23rd April 1870	Apparatus for feeding wool, cotton or other fibrous materials to carding or other machines.
KING, HENRY JAMES HOGG -	2335	25th Aug. 1870	Apparatus for feeding wool, cotton or other fibrous materials to carding or other machines.
KING, JOHN THOMSON - -	3381	28th Dec. 1870	Improvements in wood screws and in machinery employed in the manufacture thereof. (*Communicated by George Colin Davies.*)
KINGDON, GEORGE - - -	1629	6th June 1870	Improved arrangements and apparatus applicable to trawlers and other vessels, for winding wire warps or metal ropes for deep sea fishing and other purposes.
KINNE, GEORGE O. - -	2463	12th Sept. 1870	An improved mode of operating the "Gatling" gun and other guns of like character. (*Patented by Alfred Vincent Newton.*)
KINSEY, HENRY - - -	1279	4th May 1870	Improvements in wheels for carriages, vehicles and locomotive apparatus, and in wheels and pulleys for driving machinery.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
KINZLER, CHARLES - -	306	2nd Feb. 1870	Propellers.
KIRBY, THOMAS - - -	2113	27th July 1870	Apparatus or machinery for raising and lowering revolving shutters.
KIRBY, WILLIAM BATISON -	2113	27th July 1870	Apparatus or machinery for raising and lowering revolving shutters.
KIRK, JAMES - - - -	1069	12th April 1870	Improvements in machinery or apparatus for felting or "planking" the bodies of hats or other coverings for the head, which improvements are also applicable to other felting purposes.
KIRKHAM, THOMAS NESHAM -	2462	12th Sept. 1870	Apparatus suitable for scouring, washing, bleaching, dyeing and drying fibrous materials in the raw and manufactured state and for like purposes.
KIRKLAND, HENRY BURNHAM	2083	23rd July 1870	Apparatus for the manufacture of gas. (*Patented by William Edward Newton.*)
KIRKLAND, HENRY BURNHAM	2642	5th Oct. 1870	Working of galvanic batteries. (*Patented by Alfred Vincent Newton.*)
KIRKMAN, CHARLES FELTON -	2653	6th Oct. 1870	Improvements in treating sewage and in the apparatus and means employed therein.
KIRKMAN, GIARDINELLI [SPOONER.	2709	14th Oct. 1870	Apparatus for shoreing or strutting earth-works, tunnels, shafts, buildings and other structures.
KIRKMAN, HENRY JOHN -	1035	8th April 1870	Construction of pianofortes.
KIRKPATRICK, EDWARD [THOMAS.	1300	6th May 1870	A new or improved mode of producing oxygen gas at the ordinary temperature of the air or at a higher temperature.
KIRKPATRICK, ROBERT STOT- [HERT.	2841	28th Oct. 1870	Corkscrews. (*Patented by Edwin Sunderland.*)
KIRKPATRICK, ROBERT STOT- [HERT.	2988	15th Nov. 1870	An improvement or improvements in castors for furniture. (*Patented by Arthur Chamberlain.*)
KITCHIN, EDWARD - - -	3212	7th Dec. 1870	"Jiggers or dummy" machines used in the manufacture of leather, artificial or otherwise.
KITCHIN, MATTHEW - -	3212	7th Dec. 1870	"Jiggers or dummy" machines used in the manufacture of leather, artificial or otherwise.
KITSON, RICHARD - - -	1451	19th May 1870	Machines for lapping cotton and other fibrous materials. (*Patented by William Robert Lake.*)
KITTOE, GEORGE DOMINICUS -	47	6th Jan. 1870	Packing of pistons, glands, pipe and other joints.
KLAUS, THÉOPHILE - -	1918	7th July 1870	Smoothing irons. (*Patented by Alexander Melville Clark.*)
KLEMM, BROTHERS - -	2210	9th Aug. 1870	Manufacture of leather for picking bands, lathes and other articles requiring leather of an extraordinary toughness, durability and strength. (*Patented by Edward Moss.*)
KLEMM, CHARLES - - -	1662	8th June 1870	Manufacture of leather for mill bands. (*Patented by Edward Moss.*)
KLEMM, HENRY - - -	1662	8th June 1870	Manufacture of leather for mill bands. (*Patented by Edward Moss.*)
KLINKERFUES, WILHELM -	3228	8th Dec. 1870	Mode of and apparatus for igniting gas. (*Patented by William Lloyd Wise.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
KLINTBERG, CARL ANTHONY -	1210	27th April 1870	Breech-loading needle guns. (*Patented by Henry Atkinson.*)
KNEVITT, FREDERICK HARTT	91	12th Jan. 1870	Improvements in shutters and blinds for windows, doorways and other apertures, and in the means for adjusting the same.
KNEWSTUB, FABIAN JAMES -	1698	13th June 1870	Travelling and other bags, cases and boxes.
KNIGHT, MARGARET E. - -	2364	29th Aug. 1870	Machinery for manufacturing paper bags. (*Patented by William Robert Lake.*)
KNIPPLE, WALTER ROBERT -	2444	9th Sept. 1870	Caissons and bridges to bridge across the entrances to graving docks, harbours, rivers or estuaries.
KNOWLES, ARTHUR - -	1277	4th May 1870	Reversing gear for engines.
KNOWLES, EDWIN - - -	13	3rd Jan. 1870	Looms for weaving.
KNOWLES, EDWIN WILLIAM -	447	16th Feb. 1870	Improved machinery for stamping and embossing.
KNOWLES, JOHN - - -	336	5th Feb. 1870	Mode of working self-acting mules for spinning and doubling.
KNOWLES, MARK - - -	936	31st March 1870	Looms for weaving.
KNOWLES, WILLIAM DUDLEY	1135	19th April 1870	Studs or buttons. (*Patented by Benjamin Joseph Barnard Mills.*)
KNOWLTON, WILLIAM F. -	1345	11th May 1870	Paddle-wheels. (*Patented by William Robert Lake.*)
KOCH, PHILIPPE - - -	2559	23rd Sept. 1870	Machinery for tapping nuts for screw bolts.
KOECHLIN, ANDRÉ - - -	106	12th Jan. 1870	Machinery for preparing fibres for spinning. (*Patented by Alfred Vincent Newton.*)
KOEHLER, —— - - -	1866	1st July 1870	Improvements in the production of ice and in apparatus for the same. (*Patented by Alexander Melville Clark.*)
KŒMP, NAGEL AND - -	649	5th March 1870	Machinery for dressing or sifting ground wheat or other grain. (*Patented by Julius Allmann.*)
KOHN, FERDINAND - - -	219	24th Jan. 1870	An improved method of extracting juices from plants and of separating liquid or soluble matter from solids. (*Partly communicated by Julius Robert.*)
KOHN, FERDINAND - - -	2504	17th Sept. 1870	An improved method of separating materials of different specific gravity.
KONIGMANN, MORITZ - -	1697	13th June 1870	Improved methods of preparing pure carbonate and bicarbonate of soda, and also soda in its crystallized state. (*Patented by Edward Thomas Hughes.*)
KOTHE, FERDINAND - -	1052	9th April 1870	Improvements in the construction of steam vessels and in the arrangement of wheels for propelling the same. (*Patented by William Robert Lake.*)
KRAUSE, FREDERICK C. - -	1082	13th April 1870	Filters. (*Patented by Charles Joseph.*)
KRAUSE, FREDERICK CHARLES	1733	17th June 1870	Gas-burners. (*Patented by Charles Joseph.*)
KROMER, THEODORE - -	3114	28th Nov. 1870	An improved construction of combination locks and latches. (*Patented by Charles Denton Abel.*)
KROMER, THEODORE - -	3115	28th Nov. 1870	An improved construction of locks and latches. (*Patented by Charles Denton Abel.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
KROMSCHROEDER, HENRY [HERMANN.	1729	16th June 1870	Gas meters.
KRÚGER, EMIL - - -	365	8th Feb. 1870	An improved method of re-utilizing caustic soda-lye.
KUNG, THEODORE - - -	1563	28th May 1870	Cameras for reflecting and magnifying opaque objects. (*Patented by Emil Adam Strubia.*)
KÜNZEL, CHARLES - - -	1408	17th May 1870	Manufacture of bronze. (*Patented by Joseph Levi Montefiore.*)

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LA RUE, ERNEST DE - -	1107	14th April 1870	Croquet mallets.
LA RUE, WARREN WILLIAM DE	892	26th March 1870	Bezique markers.
LA RUE, WARREN WILLIAM DE	3303	17th Dec. 1870	Whist markers.
LABAREE, JOHN WESLEY -	2208	9th Aug. 1870	Balance elevators. (*Patented by Alexander Horace Brandon.*)
LACEY, STEPHEN CHARLES -	2350	26th Aug. 1870	An improved apparatus for stopping the flow of gas through a meter when any determined quantity has been supplied.
LACEY, THOMAS - - -	2350	26th Aug. 1870	An improved apparatus for stopping the flow of gas through a meter when any determined quantity has been supplied.
LACOMME, JEAN MARIE AU- [GUSTE.	2202	8th Aug. 1870	Improved means of exhibiting in the open air, advertisements, photographic views, portraits or pictures, and also for decorating the fronts of theatres and other buildings.
LAETHEM, HENRY VAN - -	1422	18th May 1870	Universal dials for clocks and watches.
LAFAGE, AUGUSTE - - -	2851	29th Oct. 1870	An improved camp-bed which may be used for several various other useful purposes.
LAGAN, JOHN CAMPBELL Mc -	758	15th March 1870	An improvement in sewing-machines. (*Communicated by John Hadley Osborn.*)
LAIDLAW, DAVID - - -	2733	17th Oct. 1870	Improved arrangements for applying compressed air or other fluid to propel omnibuses or other vehicles on railways, tramways or common roads, and in part applicable otherwise.
LAKE, JAMES K. - - -	1270	3rd May 1870	Traction and locomotive engines. (*Patented by Alexander Melville Clark.*)
LAKE, SAMUEL - - -	1629	6th June 1870	Improved arrangements and apparatus applicable to trawlers and other vessels, for winding wire warps or metal ropes for deep sea fishing and other purposes.
LAKE, WILLIAM ROBERT -	8	1st Jan. 1870	Improvements in harness for draught animals and in connecting and disconnecting devices to be used therewith. (*Communicated by J. B. Crosby.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	16	3rd Jan. 1870	Wire ties for securing bales of cotton, hay or other material. (*Communicated by Edwin S. Lenox.*)
LAKE, WILLIAM ROBERT -	59	7th Jan. 1870	Lawn mowing machines. (*Communicated by Samuel Coit.*)
LAKE, WILLIAM ROBERT -	87	11th Jan. 1870	An improved apparatus for sharpening knives and in a composition to be used therewith. (*Communicated by Zenas Colman Robbins and Henry Alfred Robbins.*)
LAKE, WILLIAM ROBERT -	182	20th Jan. 1870	Needles and needle arms for sewing-machines. (*Communicated by Mary Pemellaia Carpenter.*)
LAKE, WILLIAM ROBERT -	192	21st Jan. 1870	An improved toy air gun and projectile for the same. (*Communicated by Henry Josiah Griswold.*)
LAKE, WILLIAM ROBERT -	213	22nd Jan. 1870	Mowing and reaping machines. (*Communicated by George Washington Newton Yost, Franklin William Andrews, Lyman Stewart and Henry Allerton Hutson.*)
LAKE, WILLIAM ROBERT -	215	24th Jan. 1870	An improved method of and apparatus for operating railway switches. (*Communicated by Adolph Schnabel and Theodor Henning.*)
LAKE, WILLIAM ROBERT -	235	26th Jan. 1870	Improvements in furnace grates and in apparatus connected therewith, for heating water for steam-boilers and for other like purposes. (*Communicated by Charles Emery Hutson.*)
LAKE, WILLIAM ROBERT -	251	28th Jan. 1870	Lawn-mowing machines. (*Communicated by James Darius Frary.*)
LAKE, WILLIAM ROBERT -	261	28th Jan. 1870	Mechanism for spinning wool. (*Communicated by Darius Goff and Darius Lee Goff.*)
LAKE, WILLIAM ROBERT -	279	31st Jan. 1870	Apparatus for producing rotary motion. (*Communicated by Addison Goodyear Waterhouse.*)
LAKE, WILLIAM ROBERT -	294	1st Feb. 1870	Sewing-machine needles and needle arms. (*Communicated by George Albert Lloyd.*)
LAKE, WILLIAM ROBERT -	305	2nd Feb. 1870	An improved automatic apparatus for producing carbonic acid for the manufacture of effervescing or gaseous liquids, and for the application of such liquids to various purposes. (*Communicated by Anet Jacques Nadaud.*)
LAKE, WILLIAM ROBERT -	309	2nd Feb. 1870	An improved mode of and apparatus for revivifying animal charcoal. (*Communicated by Doctor Herrmann Eipfeldt and Camillo Thumb.*)
LAKE, WILLIAM ROBERT -	319	3rd Feb. 1870	An improved friction clutch. (*Communicated by Francis Ashbury Pratt and Samuel Coit.*)
LAKE, WILLIAM ROBERT -	320	3rd Feb. 1870	Spring bed bottoms. (*Communicated by Robert Barker, Stephen Albro Barker and Louis Fisher.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	321	3rd Feb. 1870	Machines for mowing grass. (*Communicated by William Sprague.*)
LAKE, WILLIAM ROBERT -	395	10th Feb. 1870	Improved apparatus for producing fringe upon woven fabrics. (*Communicated by Nathaniel Wheeler.*)
LAKE, WILLIAM ROBERT -	397	10th Feb. 1870	Printing machines more especially designed for printing cards. (*Communicated by William Henry Bush.*)
LAKE, WILLIAM ROBERT -	401	10th Feb. 1870	Looms for weaving. (*Communicated by John A. Bassett and John Robinson Norfolk.*)
LAKE, WILLIAM ROBERT -	407	11th Feb. 1870	Spring seats and bed bottoms. (*Communicated by John Lorenzo Whipple.*)
LAKE, WILLIAM ROBERT -	415	11th Feb. 1870	Apparatus for drying sugar. (*Communicated by Alexander Herbst.*)
LAKE, WILLIAM ROBERT -	459	16th Feb. 1870	Manufacture of vegetable parchment or parchment paper. (*Communicated by Colin Campbell.*)
LAKE, WILLIAM ROBERT -	476	17th Feb. 1870	An improved instrument for determining the altitude and zenith distance of celestial bodies. (*Communicated by Hall Colby.*)
LAKE, WILLIAM ROBERT -	511	21st Feb. 1870	An improved pneumatic engine. (*Communicated by John S. Morton.*)
LAKE, WILLIAM ROBERT -	515	22nd Feb. 1870	A method of producing an improved black pigment and obtaining phosphates and other substances from the waste portions of the hop plant. (*Communicated by Frederic Rotter.*)
LAKE, WILLIAM ROBERT -	537	23rd Feb. 1870	An improved alarm apparatus. (*Communicated by Eugene Victor Achille Loiseau.*)
LAKE, WILLIAM ROBERT -	557	25th Feb. 1870	An improved method of and apparatus for producing and utilizing a fall of water. (*Communicated by Doctor Heiman Sanders-Ezn.*)
LAKE, WILLIAM ROBERT -	636	3rd March 1870	Permanent way of railways. (*Communicated by Daniel Rice Pratt.*)
LAKE, WILLIAM ROBERT -	676	7th March 1870	An improved machine for sweeping carpets and other floor coverings and floors, by the action of an atmospheric current. (*Communicated by Arthur John Hapgood.*)
LAKE, WILLIAM ROBERT -	688	8th March 1870	An improved method of and apparatus for executing submarine constructions. (*Communicated by François Durand.*)
LAKE, WILLIAM ROBERT -	700	9th March 1870	An improved method of etching relief-plates for surface-printing. (*Communicated by John M^{c} Loughlin and Edmund M^{c}Loughlin.*)
LAKE, WILLIAM ROBERT -	701	9th March 1870	Improvements in threshing machines and in driving mechanism for the same and for other machinery. (*Communicated by George B. Hamlin.*)
LAKE, WILLIAM ROBERT -	714	10th March 1870	Apparatus for extinguishing fire. (*Communicated by C. Gilbert Wheeler.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	744	14th March 1870	Improved apparatus for indicating a deficiency of water in steam-boilers, and for regulating the supply of water thereto. (*Communicated by Rufus Nutting Pratt, Robert Berryman, Francis A. Pratt and Samuel Coit.*)
LAKE, WILLIAM ROBERT -	781	16th March 1870	An improved machine for forming trenches or ditches. (*Communicated by Henry Carter.*)
LAKE, WILLIAM ROBERT -	821	19th March 1870	Machinery for sewing boots and shoes. (*Communicated by Charles Goodyear, junior.*)
LAKE, WILLIAM ROBERT -	837	21st March 1870	Wheels for railway engines and carriages. (*Communicated by James Atkins Woodbury.*)
LAKE, WILLIAM ROBERT -	839	21st March 1870	An improved micrometric steelyard. (*Communicated by Louis Jean Baptiste Saladin.*)
LAKE, WILLIAM ROBERT -	845	22nd March 1870	An improved method of counteracting the pressure on the slide valves of steam or other engines. (*Communicated by William Myrtle Williams.*)
LAKE, WILLIAM ROBERT -	856	23rd March 1870	Improvements in the manufacture of bars, plates and sheets of steel or steel and iron combined, and in the process of welding employed in such manufacture. (*Communicated by John Absterdam.*)
LAKE, WILLIAM ROBERT -	870	24th March 1870	Turbine water-wheels. (*Communicated by Henry Allen Chadwick.*)
LAKE, WILLIAM ROBERT -	872	24th March 1870	Preparation of ammoniated sulphuric acid for the manufacture of manure. (*Communicated by Charles U. Shepard, junior.*)
LAKE, WILLIAM ROBERT -	885	25th March 1870	Improvements in the valves of steam-engines and in the mechanism for operating the same. (*Communicated by George Enoch Noyes.*)
LAKE, WILLIAM ROBERT -	906	28th March 1870	Anchors. (*Communicated by Gourney Crow Pattison.*)
LAKE, WILLIAM ROBERT -	942	31st March 1870	Mechanism for diminishing friction. (*Communicated by Jean Baptiste Léopold Favier-Lagaye and Ernest Auguste Verleye.*)
LAKE, WILLIAM ROBERT -	987	4th April 1870	An improved illuminated night clock. (*Communicated by Victor Atanas Pierret and Fritz Borel.*)
LAKE, WILLIAM ROBERT -	1052	9th April 1870	Improvements in the construction of steam vessels and in the arrangement of wheels for propelling the same. (*Communicated by Ferdinand Kothe.*)
LAKE, WILLIAM ROBERT -	1073	12th April 1870	Brakes and starting apparatus for railway carriages. (*Communicated by Edward Pugh Jones.*)
LAKE, WILLIAM ROBERT -	1074	12th April 1870	Improvements in whiffle-trees and in devices employed therewith for readily connecting and disconnecting horses and vehicles. (*Communicated by Edward Pugh Jones.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	1089	13th April 1870	An improved mode of utilizing cotton waste and other refuse fibrous materials, for cleaning machinery. (*Communicated by Anthony Peple.*)
LAKE, WILLIAM ROBERT -	1093	14th April 1870	Looms for weaving. (*Communicated by James Brierly.*)
LAKE, WILLIAM ROBERT -	1101	14th April 1870	Knitting machines. (*Communicated by Edward Kelleran Harding.*)
LAKE, WILLIAM ROBERT -	1104	14th April 1870	An improved machine for drilling or boring rocks, chiefly designed for working mines, tunnels and quarries, and for submarine operations. (*Communicated by James Asbury McKean.*)
LAKE, WILLIAM ROBERT -	1143	19th April 1870	Cartridges for breech-loading fire-arms. (*Communicated by B. B. Hotchkiss.*)
LAKE, WILLIAM ROBERT -	1152	20th April 1870	Condensers for marine steam-engines. (*Communicated by John Houpt.*)
LAKE, WILLIAM ROBERT -	1154	20th April 1870	Reversible butt hinges. (*Communicated by George Albert Lloyd and Joseph Wesley Stow.*)
LAKE, WILLIAM ROBERT -	1219	27th April 1870	An improved process for cleaning wool or hair. (*Communicated by Charles F. A. Simonin and Edward W. Coffin.*)
LAKE, WILLIAM ROBERT -	1244	30th April 1870	An improved spring fastening for securing purses, pocket-books, cigar-cases and similar articles, and for other like purposes. (*Communicated by Mathurin Brouard.*)
LAKE, WILLIAM ROBERT -	1252	2nd May 1870	An improved valve or stop-cock. (*Communicated by John Cram Chapman.*)
LAKE, WILLIAM ROBERT -	1286	5th May 1870	Steam-engines. (*Communicated by Messrs. Babcock and Wilcox.*)
LAKE, WILLIAM ROBERT -	1313	7th May 1870	An improved stamping apparatus chiefly designed for impressing names, addresses, dates and numbers, upon letters, envelopes and other papers. (*Communicated by Messrs. Towle and Harding.*)
LAKE, WILLIAM ROBERT -	1335	10th May 1870	Apparatus or machinery for making gas from liquid hydrocarbons, for illuminating purposes. (*Communicated by Myron Hopkins Strong, Thomas Barbour and Charles Cunningham Connor.*)
LAKE, WILLIAM ROBERT -	1336	10th May 1870	Process of brewing ale and other malt liquors. (*Communicated by James McCormick.*)
LAKE, WILLIAM ROBERT -	1345	11th May 1870	Paddle-wheels. (*Communicated by William F. Knowlton and Marshall McComb.*)
LAKE, WILLIAM ROBERT -	1383	14th May 1870	Sewing-machines. (*Communicated by General Elisha Gaylord Marshall.*)
LAKE, WILLIAM ROBERT -	1431	18th May 1870	Improvements in looms for weaving and in shuttles for the same and for other machines. (*Communicated by Hamilton E. Towle.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	1451	19th May 1870	Machines for lapping cotton and other fibrous materials. (*Communicated by Richard Kitson.*)
LAKE, WILLIAM ROBERT -	1490	23rd May 1870	Machinery for scouring, glossing and otherwise treating leather. (*Communicated by Edward Fitzhenry.*)
LAKE, WILLIAM ROBERT -	1491	23rd May 1870	Machinery for sewing boots and shoes. (*Communicated by Charles Goodyear, junior.*)
LAKE, WILLIAM ROBERT -	1506	24th Aug. 1870	Supporting apparatus for the rollers of spinning frames. (*Communicated by Florentin Augustin Steverlynck-Delecroix, Edmond Steverlynck and Léon Steverlynck.*)
LAKE, WILLIAM ROBERT -	1512	25th May 1870	Washing-machines. (*Communicated by Joshua Thomas Owen.*)
LAKE, WILLIAM ROBERT -	1599	2nd June 1870	Couplings for railway carriages. (*Communicated by Richard Campion, James W. Thomson, junior, John H. Michener and Samuel L. Ward.*)
LAKE, WILLIAM ROBERT -	1611	3rd June 1870	Improved means for preventing fraudulent alterations in bankers' checks and other monetary instruments. (*Communicated by John Bigley Newton.*)
LAKE, WILLIAM ROBERT -	1638	6th June 1870	An improved metallic paint for preventing the corrosion and fouling of ship's bottoms and other surfaces in water. (*Communicated by James Gamage Tarr and Augustus Henry Wonson.*)
LAKE, WILLIAM ROBERT -	1649	7th June 1870	Machinery or apparatus for testing strain or pressure applied to solid bodies, and for other like purposes. (*Communicated by Jules Auguste Desgoffe.*)
LAKE, WILLIAM ROBERT -	1657	8th June 1870	Printing telegraph apparatus. (*Communicated by Elisha Whittelsey Andrews and George Baker Field.*)
LAKE, WILLIAM ROBERT -	1687	11th June 1870	An improved embroidery attachment for sewing-machines. (*Communicated by Nathaniel Wheeler.*)
LAKE, WILLIAM ROBERT -	1696	13th June 1870	Rudders for vessels. (*Communicated by Stephen Gano Coleman.*)
LAKE, WILLIAM ROBERT -	1724	16th June 1870	Improvements in steel washers and in apparatus employed for forming the same. (*Communicated by William Butcher and George Whitfield Billings.*)
LAKE, WILLIAM ROBERT -	1764	21st June 1870	Improvements in fastenings or connections for securing the cables and standing rigging of ships and for other like purposes. (*Communicated by William Carlton Ireland.*)
LAKE, WILLIAM ROBERT -	1793	23rd June 1870	An improved faucet. (*Communicated by Isaac Carey.*)
LAKE, WILLIAM ROBERT -	1827	27th June 1870	Rails for railways. (*Communicated by Adolf Neumann.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	1829	27th June 1870	Improvements in breech-loading fire-arms and in cartridges for the same. (*Communicated by Charles Edward Sneider.*)
LAKE, WILLIAM ROBERT -	1831	27th June 1870	Candles. (*Communicated by François Alfred Chatel.*)
LAKE, WILLIAM ROBERT -	1844	28th June 1870	An improved machine for hulling coffee and rice. (*Communicated by Henry Thomas Pratt and John Carver Alden.*)
LAKE, WILLIAM ROBERT -	1854	29th June 1870	Apparatus for effecting the delivery of mail bags and parcels to railway trains in motion. (*Communicated by William McCabe and Francis Wayland Glen.*)
LAKE, WILLIAM ROBERT -	1856	30th June 1870	Improvements in steam generators and in furnaces therefor. (*Communicated by S. Lloyd Wiegand.*)
LAKE, WILLIAM ROBERT -	1857	30th June 1870	An improved process and apparatus for chlorinating gold, silver and copper ores. (*Communicated by Charles Stetefeldt.*)
LAKE, WILLIAM ROBERT -	1867	1st July 1870	Boat-detaching apparatus. (*Communicated by Oliver Trumbull McIntosh.*)
LAKE, WILLIAM ROBERT -	1880	2nd July 1870	Journal bearings and axle-boxes, chiefly designed for carriages or vehicles running upon rail and tramways. (*Communicated by George Franklin Lynch.*)
LAKE, WILLIAM ROBERT -	1904	5th July 1870	Mechanical appliances and furnaces and a process employed therewith, for separating and reducing iron or iron ores, and for other metallurgical operations. (*Communicated by John Y. Smith.*)
LAKE, WILLIAM ROBERT -	1914	6th July 1870	Furnaces chiefly designed for heating metals and ores. (*Communicated by William A. Sweet.*)
LAKE, WILLIAM ROBERT -	1923	7th July 1870	An improved device for fastening tickets upon woven goods and other articles. (*Communicated by Léon Georges Gassion.*)
LAKE, WILLIAM ROBERT -	1943	8th July 1870	Buckles for fastening dress belts and other like articles. (*Communicated by Marc André Baudit.*)
LAKE, WILLIAM ROBERT -	1944	8th July 1870	Improved locking and releasing hooks. (*Communicated by John Bozorth and Henry Fredericks.*)
LAKE, WILLIAM ROBERT -	1962	12th July 1870	Machines for moulding and pressing bricks. (*Communicated by Benjamin Magee Gard and Emery Ross Gard.*)
LAKE, WILLIAM ROBERT -	1990	14th July 1870	An improved machine for manufacturing spools. (*Communicated by John F. C. Rider and Emerson P. Brownell.*)
LAKE, WILLIAM ROBERT -	2055	21st July 1870	Wheels for railway carriages and other vehicles. (*Communicated by Almond Franklin Cooper.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	2100	26th July 1870	Manufacture of vegetable parchment or parchment paper. (*Communicated by Colin Campbell.*)
LAKE, WILLIAM ROBERT -	2101	26th July 1870	An improved method of manufacturing solid collodion and moulding the same into articles of any desired form. (*Communicated by Isaiah S. Hyatt and John W. Hyatt, junior.*)
LAKE, WILLIAM ROBERT -	2112	27th July 1870	Improvements in furnace grates and in apparatus connected therewith, for heating water for steam-boilers and for other like purposes. (*Communicated by Charles Emery Hutson.*)
LAKE, WILLIAM ROBERT -	2153	2nd Aug. 1870	Improved lubricating packing for railway carriage journals. (*Communicated by William Henry Jewell.*)
LAKE, WILLIAM ROBERT -	2154	2nd Aug. 1870	Let-off mechanism of looms for weaving. (*Communicated by Daniel Long and John Preston.*)
LAKE, WILLIAM ROBERT -	2159	2nd Aug. 1870	Preparation and treatment of wood to preserve the same from decay. (*Communicated by Archibald B. Tripler.*)
LAKE, WILLIAM ROBERT -	2166	3rd Aug. 1870	An improved sewing-machine. (*Communicated by John Paulding.*)
LAKE, WILLIAM ROBERT -	2167	3rd Aug. 1870	An improved method of and apparatus for refining and ageing liquors. (*Communicated by Samuel H. Gilman.*)
LAKE, WILLIAM ROBERT -	2172	4th Aug. 1870	Apparatus for extinguishing fire. (*Communicated by C. Gilbert Wheeler.*)
LAKE, WILLIAM ROBERT -	2173	4th Aug. 1870	Machinery for sewing boots and shoes. (*Communicated by Charles Goodyear, junior.*)
LAKE, WILLIAM ROBERT -	2180	4th Aug. 1870	Knitting machines. (*Communicated by The Hinkley Knitting Machine Company (Incorporated).*)
LAKE, WILLIAM ROBERT -	2233	11th Aug. 1870	Improvements in sewing-machines for producing over-cast and button-hole hems with a single needle. (*Communicated by Isidor Nasch and Charles Grimme.*)
LAKE, WILLIAM ROBERT -	2274	17th Aug. 1870	An improved washer for locking screw nuts on their bolts. (*Communicated by William Hunter Van Cleve.*)
LAKE, WILLIAM ROBERT -	2286	18th Aug. 1870	Metallic cartridges for fire-arms. (*Communicated by Francis Draper.*)
LAKE, WILLIAM ROBERT -	2294	19th Aug. 1870	Improved methods of effecting the lubrication of and exclusion of dust from carriage axle journals and other bearings, and in apparatus or mechanical devices employed therefor. (*Communicated by Ernest Von Jeinsen and James Monroe McDonald.*)
LAKE, WILLIAM ROBERT -	2323	23rd Aug. 1870	Knitting-machines. (*Communicated by William Henry Abel.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	2358	27th Aug. 1870	An improved sewing-machine attachment for manufacturing tubing or piping for ornamenting dresses and for other like purposes. (*Communicated by George Henry Collins.*)
LAKE, WILLIAM ROBERT -	2359	27th Aug. 1870	Manufacture of tacks and nails. (*Communicated by Howell Woodbridge Wright.*)
LAKE, WILLIAM ROBERT -	2364	29th Aug. 1870	Machinery for manufacturing paper bags. (*Communicated by Margaret E. Knight.*)
LAKE, WILLIAM ROBERT -	2385	1st Sept. 1870	Permanent way of railways. (*Communicated by Daniel Rice Pratt.*)
LAKE, WILLIAM ROBERT -	2401	2nd Sept. 1870	An improved process for extracting caustic soda and potash and the carbonates of the same, from their solutions. (*Communicated by François Marie Bachet.*)
LAKE, WILLIAM ROBERT -	2498	16th Sept. 1870	Life-boats. (*Communicated by Robert Humble.*)
LAKE, WILLIAM ROBERT -	2560	23rd Sept. 1870	Rasps and files. (*Communicated by Ira Franklin Thompson.*)
LAKE, WILLIAM ROBERT -	2578	28th Sept. 1870	Electro-magnets. (*Communicated by Elisha Whittlesey Andrews.*)
LAKE, WILLIAM ROBERT -	2678	10th Oct. 1870	Steam-engines. (*Communicated by John Houpt.*)
LAKE, WILLIAM ROBERT -	2762	20th Oct. 1870	Manufacture of oil and other products of petroleum. (*Communicated by Charles Toppan.*)
LAKE, WILLIAM ROBERT -	2790	22nd Oct. 1870	An improved mode of producing a hard protective or ornamental covering or coating of compounds of india-rubber or gutta-percha, upon metal and other surfaces. (*Communicated by George Temple Chapman.*)
LAKE, WILLIAM ROBERT -	2829	27th Oct. 1870	Springs for railway carriages. (*Communicated by Richard Vose.*)
LAKE, WILLIAM ROBERT -	2862	31st Oct. 1870	Looms for weaving. (*Communicated by Enoch Provolt Terrel.*)
LAKE, WILLIAM ROBERT -	2905	3rd Nov. 1870	Pneumatic telegraphs. (*Communicated by Edward Augustine Calahan and George Baker Field.*)
LALE, WILLIAM ROBERT -	2924	5th Nov. 1870	An improved buoyant mattress designed to serve either as a bed or a life preserver. (*Communicated by Joshua Hunt.*)
LAKE, WILLIAM ROBERT -	2951	9th Nov. 1870	Apparatus for effecting and regulating the supply of the deodorizing material in earth closets. (*Communicated by William R. C. Clark and James E. Aiken.*)
LAKE, WILLIAM ROBERT -	3037	19th Nov. 1870	Machinery for scouring, glossing and otherwise treating leather. (*Communicated by Edward Fitzhenry.*)
LAKE, WILLIAM ROBERT -	3061	23rd Nov. 1870	Hydro-carbon lighting apparatus chiefly designed for locomotives and signals. (*Communicated by Myron Hopkins Strong, Thomas Barbour, Charles Cunningham Connor and Robert Barbour.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAKE, WILLIAM ROBERT -	3062	23rd Nov. 1870	Gas regulating apparatus. (*Communicated by Myron Hopkins Strong, Thomas Barbour, Charles Cunningham Connor and Robert Barbour.*)
LAKE, WILLIAM ROBERT -	3120	28th Nov. 1870	Couplings for railway carriages. (*Communicated by Richard Campion, James W. Thomson, junior, John H. Michener and Samuel L. Ward.*)
LAKE, WILLIAM ROBERT -	3165	2nd Dec. 1870	Axles and axle-boxes for wheeled vehicles. (*Communicated by Ernest Von Jeinsen and James Monroe McDonald.*)
LAKE, WILLIAM ROBERT -	3266	13th Dec. 1870	An improved electrical brake for railway carriages. (*Communicated by Joseph Olmstead.*)
LAKE, WILLIAM ROBERT -	3274	14th Dec. 1870	An improved process of eliminating the colouring matter of garancine and other products of madder. (*Communicated by Spencer Borden.*)
LAKE, WILLIAM ROBERT -	3290	15th Dec. 1870	Springs chiefly designed for railway and other carriages. (*Communicated by Patrick Sarsfield Devlan, Isaac Pennington Wendell and Stephen Paschall Morris Tasker.*)
LAKE, WILLIAM ROBERT -	3376	24th Dec. 1870	Improvements in breech-loading fire-arms and in cartridges for the same. (*Communicated by Charles Edward Sneider.*)
LAKE, WILLIAM ROBERT -	3390	29th Dec. 1870	Improvements in steam generators and in furnaces therefor. (*Communicated by S. Lloyd Wiegand.*)
LAKE, WILLIAM ROBERT -	3391	29th Dec. 1870	Machinery for manufacturing metal tubes. (*Communicated by Stephen Paschall Morris Tasker.*)
LAKIN, ROBERT - - -	494	19th Feb. 1870	Machinery for preparing, spinning, twisting and doubling cotton and other fibrous materials.
LAKIN, ROBERT - - -	771	16th March 1870	Mules for spinning and doubling.
LAKIN, ROBERT - - -	2700	13th Oct. 1870	Machinery for preparing, spinning, winding and doubling cotton and other fibrous materials, partly applicable to lubricating upright shafts.
LAMB, JOHN - - - -	2976	12th Nov. 1870	Improved compound lubricating oils.
LAMBERT, ESAU - - -	1812	25th June 1870	Construction and arrangement of stages made of iron or other similar material, applicable to windmills or other buildings or erections or structures.
LAMBERT, NATHANIEL GRACE	460	16th Feb. 1870	Glass and other furnaces.
LAMBERT, THOMAS - - -	3128	29th Nov. 1870	Improvements in the action of pianofortes.
LAMPEN, GERHARD - -	134	15th Jan. 1870	Improvements in the manufacture of shot and in apparatus employed therein.
LANCASTER, JOHN - - -	2461	12th Sept. 1870	Improvements in sizing machines and in the method of sizing yarn.
LANCASTER, WILLIAM - -	145	18th Jan. 1870	Machines for sizing yarn. (*Patented by Henry Bernoulli Barlow.*)
LANDE, WILLIAM JOSEPH -	3194	5th Dec. 1870	A new composition for bleaching wool and cotton. (*Patented by John Henry Johnson.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LANDLESS, JAMES - - -	2997	16th Nov. 1870	Improvements in machinery or apparatus for preventing "over winding" in mines, which invention is also applicable to hoists and for other similar purposes.
LANDRON, JULES, junior - -	396	10th Feb. 1870	Machinery or apparatus to be used in currying leather. (*Patented by William Edward Gedge.*)
LANE, THOMAS - - -	2169	4th Aug. 1870	Horizontal steam-boilers.
LANG, DAVID - - - -	2931	7th Nov. 1870	An improved tell-tale mechanism applicable to clocks and watches. (*Communicated by Cyrille Duquet.*)
LANG, JAMES - - - -	687	8th March 1870	Breech-loading fire-arms.
LANGDON, WILLIAM EDWARD	1268	3rd May 1870	Mode of and apparatus for working railway signals.
LANGLET, EDOUARD - -	3043	21st Nov. 1870	Means or apparatus for preventing steam-boiler explosions.
LANGSDORFF, F. HENRY - -	2930	7th Nov. 1870	Machinery for tracing and multiplying patterns, designs and such like. (*Patented by Robert Boyd.*)
LANSLEY, DAVID - - -	2334	25th Aug. 1870	Water heaters and feeders.
LARCHIN, ROBERT - - -	677	8th March 1870	Improvements applicable to reaping and mowing machines.
LARCHIN, ROBERT - - -	1760	21st June 1870	Improvements applicable to reaping and mowing machines.
LARGE, JOHN - - - -	2473	14th Sept. 1870	Improvements in or additions to stoves or fire-places.
LARKIN, HENRY - - -	1605	3rd June 1870	Machinery for engraving or etching rollers for calico printers.
LARKIN, HENRY - - -	3093	25th Nov. 1870	Manufacture of chlorine.
LARKIN, HENRY - - -	3139	30th Nov. 1870	Production of iron and steel and of oxide of iron.
LARKING, WILLIAM - -	431	14th Feb. 1870	Fire-escapes.
LAROŸE, AUGUSTE - - -	214	24th Jan. 1870	Improvements in bells and in the mode of hanging same. (*Patented by Robert Boyd.*)
LAROŸE, AUGUSTE - - -	1748	18th June 1870	Improvements in bells and in the mode of hanging the same. (*Patented by Alexander Melville Clark.*)
LASCELLES, WILLIAM HENRY	3276	14th Dec. 1870	An improved construction of office table.
LATCHFORD, BENJAMIN - -	287	1st Feb. 1870	Manufacture of spur-boxes.
LATOUCHE, JACQUES ANTOINE [CREUZÉ DE.	1119	16th April 1870	Construction of revolvers.
LATROBE, CHARLES HAZLE- [HURST.	2765	20th Oct. 1870	Construction of bridges. (*Patented by John Henry Johnson.*)
LAUDER, GEORGE - - -	3031	19th Nov. 1870	Improved machinery or apparatus for doubling, cutting off, separating and folding paper as delivered from rotary web printing machines. (*Patented by George Duncan and William Ashley Wilson.*)
LAUNDERS, ALEXANDER OLI- [VER.	256	28th Jan. 1870	Construction and application of hot water boilers, joints and valves.
LAVIGNE, GERMOND DE - -	791	17th March 1870	The application of cork for preventing loss of heat by radiation and also for protecting bodies against heat.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LAW, HENRY - - - -	965	2nd April 1870	Improvements in meters for measuring fluids and in packings and counting apparatus to be used therewith, parts of which improvements are applicable to other purposes.
LAW, HENRY - - - -	1363	13th May 1870	Improvements in meters for measuring fluids and in packings and counting apparatus to be used therewith, parts of which improvements are applicable to engines for obtaining motive-power from fluids under pressure, and to other purposes.
LAW, HENRY - - - -	1713	15th June 1870	Improvements in apparatus for the supply of water to waterclosets, urinals, lavatories, buildings and streets, some of which improvements are applicable to other purposes.
LAW, THOMAS - - -	543	24th Feb. 1870	Improvements in the manufacture of "pressed leather" and in machinery employed for this purpose.
LAW, WILLIAM - - -	675	7th March 1870	Improvements in the manufacture of pulp for making paper or papier-maché, and in the apparatus employed therein.
LAWE, ALEXANDER - -	3005	16th Nov. 1870	An improved process of electro-plating iron and steel with gold or silver. (*Patented by George Haseltine.*)
LAWRENCE, BENJAMIN - -	1419	17th May 1870	An improved ink or improved inks for printing and other purposes. (*Communicated by Lewis Francis.*)
LAWRENCE, EDWARD - -	3053	22nd Nov. 1870	Governors for steam or other motive-power engines.
LAWRENCE, EMANUEL - -	2133	30th July 1870	Improvements in cutting metals and other substances, and in the apparatus used therefor.
LAWSON, JOHN - - -	2676	10th Oct. 1870	Improved preparations of food for horses, oxen, sheep and pigs.
LAWSON, JOHN - - -	3370	24th Dec. 1870	Apparatus for raising and lowering the turrets of turret ships.
LAWSON, MATHEW - - -	2431	8th Sept. 1870	Manufacture of wearing-apparel such as coats, vests, trousers, jackets, shirts, drawers and other similar articles.
LAWTON, JOHN - - -	2241	12th Aug. 1870	Certain improvements in plastic knobs or mounts for bedsteads and other like purposes requiring a similar mode of attachment.
LE BRUN-VIRLOY, ALEXANDRE	328	4th Feb. 1870	Improvements in treating iron ores and in the furnaces or ovens employed for such purpose.
LE PELLETIER, EDOUARD -	1794	24th June 1870	Construction of revolving coilers applicable to looms for spinning hemp, flax and other textile matters.
LEA, CHARLES HENRY - -	31	4th Jan. 1870	A new or improved apparatus to signal trains in foggy weather, with self-acting apparatus to communicate and indicate intelligence to pointsman's cabin or other places.
LEACH, EDMUND - - -	2623	3rd Oct. 1870	An improved apparatus for damping textile threads or yarns in the processes of spinning, winding, reeling and warping, or other similar processes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LEACH, GEORGE - - -	243	27th Jan. 1870	Mode of and apparatus for shipping and unshipping auxiliary screw propellers whilst in deep water.
LEACHMAN, WILLIAM BRADSHAW.	556	25th Feb. 1870	Hydraulic apparatus for raising and forcing water.
LEAHY, EDMUND - - -	1948	9th July 1870	Improvements in portable or moveable railways, and in the adaptation of the same to various constructions of wheeled carriages.
LEAKE, ROBERT - - -	1297	6th May 1870	Machinery for etching or engraving rollers for calico printers.
LEAKE, ROBERT - - -	1805	3rd June 1870	Machinery for engraving or etching rollers for calico printers.
LEAKER, THOMAS HENRY -	532	2rd Feb. 1870	Buttons, studs and other such like fastenings.
LEAN, WALTER MAC - -	954	1st April 1870	Improvements in printing, lithographing and zincographing, and in the production of imitation photographic and also coloured designs on textile fabrics and paper, and in the means or apparatus employed therefor.
LEAN, WILLIAM Mc - -	1830	6th June 1870	Hinges.
LEATHAM, WILLIAM - -	2387	1st Sept. 1870	Machinery for cutting coal and other minerals.
LEATHER, JOHN HENRY - -	1224	28th April 1870	Machinery or apparatus for preparing wool or other fibrous substances for combing.
LEAVER, WILLIAM - - -	1826	27th June 1870	An improved friction brake for cars and other purposes. (*Patented by Elijah Warren Sandford.*)
LECKY, ROBERT JOHN - -	1328	10th May 1870	Locking screw bolts and nuts.
LEE, ARTHUR CAREY - -	2732	17th Oct. 1870	Raising and registering the measurements of wine, spirits and other fluids, by means of the self-registering fluid engine.
LEE, EDWARD - - -	276	21st Jan. 1870	Mill bills.
LEE, FREDERICK - - -	3051	22nd Nov. 1870	Improved trace attachments for artillery and other harness.
LEE, GEORGE SHADFORD -	1851	29th June 1870	Metallic jugs.
LEE, JAMES - - - -	1223	28th April 1870	Improved means or apparatus for obtaining motive-power.
LEE, JAMES ABRAHAM - -	3133	30th Nov. 1870	Apparatus employed in the preparation of materials for the manufacture of paper.
LEE, JAMES DENBY - -	3312	19th Dec. 1870	Looms for weaving.
LEE, JOHN - - - - -	2250	12th Aug. 1870	Knitting-machines. (*Patented by Alexander Melville Clark.*)
LEE, JOSEPH EATON - -	1734	17th June 1870	Improvements in the manufacture of tilt and forge hammer heads, and in hursts and tail hoops.
LEE, JOSEPH EATON - -	3267	14th Dec. 1870	Improvements in the manufacture of tilt and forge hammer heads, and in harsts and tail hoops.
LEE, L. L. - - - - -	1353	12th May 1870	Manufacture of ball floats. (*Patented by Lemuel Willis Weeks.*)
LEE, L. L. - - - - -	2571	26th Sept. 1870	Water gauges for steam-boilers. (*Patented by Lemuel Willis Weeks.*)
LEE, MARK - - - -	2250	12th Aug. 1870	Knitting-machines. (*Patented by Alexander Melville Clark.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LEE, THOMAS - - - -	276	31st Jan. 1870	Mill bills.
LEE, WILLIAM - - -	276	31st Jan. 1870	Mill bills.
LEECH, GEORGE - - -	525	23rd Feb. 1870	Manufacture of stocks for screwing and cutting iron pipes, bolts and other similar uses.
LEEMAN, EDWARD GREENE -	2448	10th Sept. 1870	Letter boxes and bags for receiving and containing letters.
LEES, ROBERT - - -	2821	27th Oct. 1870	"Low-water alarms" for steam generators or water heaters.
LEES, ROBERT - - -	3137	30th Nov. 1870	Boilers or steam generators.
LEETCH, JAMES - - -	118	14th Jan. 1870	Apparatus for effecting communication between the different parts of a railway train in motion.
LEETCH, JAMES - - -	1258	2nd May 1870	An improved combined self-closing stopper and whistle for the mouth-pieces of speaking tubes, which stopper also may be adapted to bottles and other vessels, and to cocks, taps and other articles for regulating the flow of liquids.
LEIDHOLD, JULIUS - - -	2079	23rd July 1870	Manufacture of the reeds employed in looms for weaving.
LEIGH, EVAN - - - -	111	13th Jan. 1870	Construction of the permanent way of railways.
LEIGH, EVAN - - - -	1498	24th May 1870	Piles for engineering purposes. (*Communicated by Thomas W. H. Moseley and Frederick Allen Leigh.*)
LEIGH, EVAN ARTHUR - -	470	17th Feb. 1870	Certain improvements in the construction of cylinders and rollers used for carding cotton, wool or other fibrous substances.
LEIGH, EVAN ARTHUR - -	1496	24th May 1870	Certain improvements in shafting and in transmitting power.
LEIGH, EVAN ARTHUR - -	2267	16th Aug. 1870	Certain improvements in the construction of cylinders and rollers used for carding cotton, wool, silk or other fibrous substances, also in roller carding generally.
LEIGH, FREDERICK ALLEN -	1498	24th May 1870	Piles for engineering purposes. (*Patented by Evan Leigh.*)
LEIGH, FREDERICK ALLEN -	1767	21st June 1870	Slasher sizing machines. (*Patented by John Bullough.*)
LEIGHTON, ANDREW - -	3139	30th Nov. 1870	Production of iron and steel and of oxide of iron.
LEIGHTON, JOHN, sen^{r}. - -	1587	31st May 1870	Ornamenting the edges and margins of books and paper.
LEIGHTON, ROBERT - -	2400	2nd Sept. 1870	An improved method of impressing, gilding and printing on the edges and covers of books.
LEITCH, GEORGE THOMSON -	1564	28th May 1870	A new or improved agricultural implement.
LELY, AFFIFI - - - -	3180	3rd Dec. 1870	Apparatus for cutting chaff and such like matters.
LENEVEN, AUGUST - - -	2108	27th July 1870	The employment of an improved material for forming the bodies or foundations of hats or other coverings for the head. (*Patented by Baldwin Fulford Weatherdon.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LENGELÉE, AUGUSTE - -	508	21st Feb. 1870	Clips or shears for clipping or shearing horses and other animals, which are also applicable for other purposes. (*Patented by Thomas James Smith.*)
LENNIG, CHARLES - - -	592	28th Feb. 1870	Sewing-machines. (*Patented by Alfred Vincent Newton.*)
LENNOX, PATRICK - - -	3090	24th Nov. 1870	A combination of instrumentalities for imparting horizontal reciprocating movements to a pendulous rod or suspensory.
LENOX, EDWIN S. - - -	16	3rd Jan. 1870	Wire ties for securing bales of cotton, hay or other material. (*Patented by William Robert Lake.*)
LENOX, EDWIN SEWALL - -	3260	13th Dec. 1870	Wire bands or fasteners for bales or parcels. (*Patented by Thomas James Smith.*)
LEONI, SIGISMUND - - -	463	17th Feb. 1870	Apparatus for cooking, heating and lighting by gas.
LEONI, SIGISMUND - - -	2194	6th Aug. 1870	Apparatus for disinfecting, purifying and drying, and also for cooking by heated air.
LEOPARD, JOHN - - -	506	21st Feb. 1870	Improvements in treating and filtering sewage and in apparatus to be employed for these purposes.
LESPERMONT, LOUIS JOSEPH [AMEDEÉ.	994	5th April 1870	Apparatus for washing and treating pulps. (*Patented by Alexander Melville Clark.*)
LESSWARE, JOHN NATHANIEL	2886	2nd Nov. 1870	Centrifugal drying machines or hydro-extractors.
LETTS, CHARLES JOHN - -	2687	11th Oct. 1870	An improved method of producing divers coloured letters, figures or other characters upon a card, ticket, label, placard or other like article, or upon any suitable surface, for advertising or similar purposes.
LETTS, THOMAS ALTON - -	2333	25th Aug. 1870	Railway and other season tickets.
LEVENS, THOMAS - - -	2695	12th Oct. 1870	An improved process for making pulp or half stuff from wood and other vegetable fibres. (*Patented by Amasa Mason.*)
LEVER, ELLIS - - - -	1001	6th April 1870	Signals and name plates to be used in connection with letter boxes.
LEVER, RICHARD - - -	3147	1st Dec. 1870	Boilers for generating steam. (*Patented by Robert Boyd.*)
LEVERS, RICHARD - - -	768	15th March 1870	An improved buckle or fastening.
LEVI, GEORGE MONTEFIORE -	1406	17th May 1870	Manufacture of bronze. (*Patented by Joseph Levi Montefiore.*)
LEWIN, STEPHEN - - -	242	27th Jan. 1870	Elevators for raising and stacking straw, hay and other similar substances.
LEWIS, GEORGE - - -	1699	13th June 1870	Reaping or harvesting machines.
LEWIS, JOSEPH - - -	2306	20th Aug. 1870	Improvements in lithographic printing and in machinery used for that purpose, parts of which invention are applicable to other printing machinery.
LEWIS, SAMUEL HENRY - -	2475	14th Sept. 1870	An improved standing bench for boot and shoemakers, locksmiths and other artizans.
LEWTHWAITE, JOHN - -	2395	2nd Sept. 1870	Apparatus for dating or marking railway and other tickets, cards, invoices, bills of lading and documents.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LEY, GEORGE WILLIAM - -	1159	20th April 1870	Production of raised and sunken designs in imitation of carving in wood, ivory, bone and other materials.
LEYBURN, EDWARD JENNER -	2381	31st Aug. 1870	Apparatus to be applied for operating sewing and other machines. (*Patented by Alexander Melville Clark.*)
LIEBERKNECHT, GUSTAV -	441	15th Feb. 1870	Improved apparatus for disentangling and arranging hair.
LIGER, FRANÇOIS JOSEPH -	1916	7th July 1870	Building of iron-work walls.
LIGHTBODY, JOHN - - -	1850	29th June 1870	An improved drying machine.
LIGHTFOOT, JOHN - - -	2692	12th Oct. 1870	Printing and dyeing textile fabrics and yarns.
LILLYWHITE, GEORGE - -	256	28th Jan. 1870	Construction and application of hot-water boilers, joints and valves.
LINBERG, CHARLES JOHN -	3154	1st Dec. 1870	Revolving fire-arms. (*Patented by Alexander Melville Clark.*)
LINDBLAD, JOHAN ANDERSON	101	12th Jan. 1870	Improvements in rails, chairs and joints for the permanent way of railways, and in machinery for manufacturing such rails.
LINDBLAD, JOHAN ANDERSON	1738	17th June 1870	Bottles or flasks and an improved device for uncorking said bottles or flasks.
LINDSAY, JOSEPH - - -	2439	9th Sept. 1870	Power looms.
LINDSAY, WILLIAM NOBLE -	2365	29th Aug. 1870	Apparatus for compressing hay or other substance and putting it up into bales.
LINDSLEY, ISAAC - - -	568	25th Feb. 1870	Improvements in the manufacture of hair cloth and other fabrics in which the weft is inserted in separate lengths, and in looms or machinery for weaving such fabrics. (*Patented by Peter Joel Livsey.*)
LINES, FREDERICK SAMUEL -	137	17th Jan. 1870	Ornamenting surfaces.
LINFOOT, JAMES - - -	624	3rd March 1870	A new and improved method of fixing bristles, hair, bass fibres and materials of like natures, in the head stock socket or handle of a brush, broom or article of similar construction.
LINFORD, JOHN SAMUEL -	2352	27th Aug. 1870	Construction of hydrometers for taking the specific gravity of fluids.
LINGARD, THOMAS TAYLOR -	429	14th Feb. 1870	Apparatus or machinery to be employed for facing, grooving or otherwise preparing blocks of stone, portions thereof being also applicable for other purposes.
LIPPINCOTT, WILLIAM JACKSON.	889	26th March 1870	Machinery for grinding and polishing saws, also applicable for grinding and polishing sheets or plates of steel and other metals. (*Patented by Charles Denton Abel.*)
LIPSCOMBE, JOHN EDWARD -	78	11th Jan. 1870	Filters or other apparatus for the purification of water or other liquids under a high pressure.
LISHMAN, THOMAS - - -	1638	6th June 1870	Improvements in the grate bars and other parts of steam-boilers and other furnaces.
LISTER, JOEL - - -	926	30th March 1870	Manufacture of table knives and forks, butchers', spear, dagger, bowie and other knives.
LISTER, SAMUEL CUNLIFFE -	1054	9th April 1870	Looms for weaving.
LISTER, SAMUEL CUNLIFFE -	1136	19th April 1870	Weaving silk and cotton velvets.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Lister, Samuel Cunliffe -	1302	6th May 1870	Double pile fabrics.
Lister, Samuel Cunliffe -	3305	17th Dec. 1870	Looms for weaving narrow fabrics.
Lister, Samuel Cunliffe -	3389	29th Dec. 1870	Looms for weaving.
Little, George - - -	65	8th Jan. 1870	Machinery for combing cotton, wool and other fibrous materials.
Little, George - - -	1177	22nd April 1870	Machinery for combing cotton, wool and other fibrous materials.
Little, George - - -	1860	30th June 1870	Machinery or apparatus for moulding for casting.
Little, George - - -	3170	2nd Dec. 1870	Improvements applicable to machinery for doubling yarns or threads of cotton and other fibrous materials.
Little, George - - -	3171	2nd Dec. 1870	Machinery for combing cotton and other fibrous materials.
Livsey, Peter Joel - -	568	25th Feb. 1870	Improvements in the manufacture of hair cloth and other fabrics in which the weft is inserted in separate lengths, and in looms or machinery for weaving such fabrics. (*Communicated by Isaac Lindsley.*)
Livsey, Peter Joel - -	1261	3rd May 1870	Machinery for printing upon spools used for holding thread and like materials. (*Communicated by Ira Dimock.*)
Livsey, Thomas Lewis - -	969	2nd April 1870	Machinery or apparatus to be employed for "filling" or starching woven fabrics made from cotton, flax or other fibrous substances.
Lloyd, George Albert -	294	1st Feb. 1870	Sewing-machine needles and needle arms. (*Patented by William Robert Lake.*)
Lloyd, George Albert -	1154	20th April 1870	Reversible butt hinges. (*Patented by William Robert Lake.*)
Lloyd, James - - -	2320	23rd Aug. 1870	Improvements in the manufacture of oil and in the machinery or apparatus to be employed therein.
Lloyd, John Hughes, M.D. -	2047	20th July 1870	Improvements in utilizing and deodorizing sewage matters of dwelling houses and other places, and in apparatus to be used in connection with the same.
Lloyd, Thomas Holt - -	1472	21st May 1870	Construction and arrangement of valves for regulating the supply or discharge of steam, water and other fluids.
Loader, John - - -	3373	24th Dec. 1870	Cartridges.
Lockerbie, Thomas - -	398	10th Feb. 1870	Improvements in utilizing water pressure in raising liquids and in apparatus therefor, also in pressure-reducing valves for the said apparatus and applicable otherwise.
Lockwood, Benjamin - -	2961	10th Nov. 1870	Improvements in the manufacture of padded or wadded quilts or other padded or wadded articles, for wearing-apparel or other purposes.
Lockyer, Edmund Beatty -	3230	9th Dec. 1870	An entire new system of constructing permanent way, with improved method of constructing and working rolling stock in connection therewith.
Lockyer, Edmund Beatty -	3231	9th Dec. 1870	A new system of constructing iron ships of war, etc., to be impervious to shot, combined with the true and only method for production and resistance of ram power.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LODGE, GEORGE - - -	1651	8th June 1870	Steam-boilers and other furnaces, fire-bars and flues.
LOISEAU, EUGENE VICTOR [ACHILLE.	537	23rd Feb. 1870	An improved alarm apparatus. (*Patented by William Robert Lake.*)
LOMAX, HENRY - - -	2565	26th Sept. 1870	Sewing-machines.
LOMAX, JOSEPH - - -	2565	26th Sept. 1870	Sewing-machines.
LONG, ALFRED - - -	1486	23rd May 1870	Means for regulating the flow or controlling the supply of water or other fluids.
LONG, ALFRED - - -	2846	29th Oct. 1870	Apparatus for controlling the passage of water or other fluids.
LONG, DANIEL - - -	2154	2nd Aug. 1870	Let-off mechanism of looms for weaving. (*Patented by William Robert Lake.*)
LONG, RICHARD - - -	1970	12th July 1870	A continuous self-wedging fencing.
LONGBOTTOM, JOHN - -	210	22nd Jan. 1870	Improvements in ornamenting woven and felted fabrics, and in apparatus employed therein.
LOOKER, BENJAMIN - -	419	12th Feb. 1870	Construction of horticultural structures, cases or enclosed spaces for use in growing seeds, plants, fruit trees and other vegetable productions.
LOOMIS, SAMUEL LEWIS - -	1412	17th May 1870	A new and improved apparatus for holding window sashes or shutters. (*Patented by Henry Bickerton Greenwood.*)
LORD, DAVID - - - -	1925	7th July 1870	Shedding warps in the process of weaving.
LORD, EDWARD - - -	477	18th Feb. 1870	Machinery for preparing, spinning and doubling.
LORD, EDWARD - - -	1078	13th April 1870	Machinery for cleaning, preparing and spinning cotton and other fibrous substances.
LORD, EDWARD - - -	2465	13th Sept. 1870	Improvements in the manufacture of certain descriptions of fabrics and in looms for weaving the same and other fabrics.
LORD, EDWARD - - -	2575	28th Sept. 1870	Modes of regulating the position of card rollers and other articles requiring accurate adjustment.
LORD, JOHN - - - -	1195	25th April 1870	Machinery or apparatus for separating and sorting cotton or other fibrous substances.
LORIÈRE, CHARLES ERNEST DE	615	2nd March 1870	An improved apparatus for producing rotary motion.
LORING JOSEPH G. - - -	3378	27th Dec. 1870	An improved mode of and composition for preserving fruit. (*Patented by George Haseltine.*)
LORON, LOUIS THEODORE HIP- [POLYTE.	416	11th Feb. 1870	Improved machinery for bolting or sifting flour or meal and separating the heavier from the lighter particles. (*Patented by William Edward Newton.*)
LOUCHART, BENOIT - -	1444	19th May 1870	Steam-engines. (*Patented by William Edward Gedge.*)
LOUGHLIN, EDMUND MC - -	700	9th March 1870	An improved method of etching relief plates for surface printing. (*Patented by William Robert Lake.*)
LOUGHLIN, JOHN MC - -	700	9th March 1870	An improved method of etching relief plates for surface printing. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LOUIS, ALEXANDER FRIDERICH [WILHELM.	648	4th March 1870	Improvements in or applicable to chairs, sofas and to all kinds of seats with or without backs.
LOVE, JOHN CHARLES - -	2521	19th Sept. 1870	Vapor or gas-burners. (*Patented by Alexander Horace Brandon.*)
LOVEDAY, WILLIAM JAMES -	1395	16th May 1870	Machinery for shaping wood and other materials.
LOW, WILLIAM - - -	2927	5th Nov. 1870	Improvements in the mode of and machinery for tunnelling, mining and coal cutting.
LOWBER, DANIEL COLE - -	1464	20th May 1870	Wire ties for securing bales of hay, cotton and other merchandize.
LOWBER, DANIEL COLE - -	1695	13th June 1870	Machinery for manufacturing wire ties for securing bales of hay, cotton and other merchandize.
LOWDEN, HENRY WILLIAM -	68	8th Jan. 1870	An improved self guaging and registering indicator for ascertaining the hourly, daily or periodical consumption of liquids of any kind.
LOWE, CHARLES - - -	2696	12th Oct. 1870	Printing metallic surfaces and metallic articles.
LOWE, EDWIN - - - -	1250	2nd May 1870	Manufacture of brass-headed nails, screw-rings and rivets.
LOWE, GEORGE GREGORY -	666	7th March 1870	Construction of cisterns and tanks.
LOWE, JOHN - - - -	3191	5th Dec. 1870	Improvements in the construction of spindles and flyers for roving and slubbing frames, and in tools or machinery for making the same.
LOWE, JOHN EDGAR - -	2197	8th Aug. 1870	Improvements in permanent way, relating to iron chairs and sleepers.
LOWE, WILLIAM SCOWCROFT -	37	5th Jan. 1870	Certain improvements in sizing-machines.
LOWE, WILLIAM SCOWCROFT -	611	2nd March 1870	Tape dressing machines.
LOWE, WILLIAM SCOWCROFT -	1308	7th May 1870	Tape-dressing or sizing machines.
LOWERRE, JAMES JOSEPH -	1726	16th June 1870	Paint brushes. (*Patented by William Edward Newton.*)
LOWNE, ROBERT MANN - -	3343	21st Dec. 1870	Spirometers.
LOWRY, DANIEL HARRISON -	2293	19th Aug. 1870	An improvement in the manufacture of sulphuric acid.
LOWRY, GEORGE - - -	1591	1st June 1870	Construction of machinery for preparing and hackling flax.
LUCAS, GEORGE - - -	2488	15th Sept. 1870	Looms for weaving.
LUÇON, LAURENT - - -	464	17th Feb. 1870	An improved horizontal pump.
LUÉ, ANGELO - - - -	367	8th Feb. 1870	Improvements in rendering fabrics waterproof and in manufacturing a composition to be used for this purpose.
LUMLEY, JAMES - - -	2646	6th Oct. 1870	Washing machines.
LUMLEY, LOUIS CHARLES -	3393	30th Dec. 1870	Brushes and brooms.
LUND, HARDAKER - - -	1364	13th May 1870	An improved electro-magnetic engine.
LUND, JOHN ALEXANDER -	914	29th March 1870	Improvements in keys for watches and other pocket time-keepers, and in the time-keepers to which they are applied.
LUNDY, JOHN JAMES - -	713	10th March 1870	Effecting the decolorisation, deodorisation and purification of foul and waste waters of sewage and of supernatant sewage water.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
LUNDY, JOHN JAMES - -	1753	18th June 1870	An improved compound for the lubrication of wool and other similar animal material in their processes of manufacture.
LUNDY, JOHN JAMES - -	2810	25th Oct. 1870	An improved compound for the lubrication of wool and other similar animal material in their processes of manufacture, and in preventing and arresting the combustion of such materials.
LUNGE, GEORGE - - -	1362	12th May 1870	Coatings for iron ships.
LUNGE, GEORGE - - -	1525	26th May 1870	Treatment of esparto grass and other fibrous materials.
LUNGLEY, CHARLES - -	237	26th Jan. 1870	Improvements in the construction of ships or vessels, and in bolts and nuts for fastening the parts together, also in the construction and employment of apparatus to be applied to such ships or vessels to assist in steering and propelling them through intricate channels.
LUNGLEY, CHARLES - -	1180	22nd April 1870	Improvements in the manufacture and in the securing of tubes, taps and plugs in boilers and other vessels, also in certain modes of regulating and stopping the flow of liquids, gases or air into or from such vessels.
LUSTY, JAMES - - -	114	13th Jan. 1870	Feed mechanism for sewing-machines.
LUXTON, CHARLES - - -	1594	1st June 1870	An improvement in machines for working and preparing peat for fuel. (*Patented by Alexander Melville Clark.*)
LYALL, JAMES - - -	1578	30th May 1870	Looms for weaving. (*Patented by Alfred Vincent Newton.*)
LYNCH, GEORGE FRANKLIN -	1880	2nd July 1870	Journal bearings and axle-boxes chiefly designed for carriages or vehicles running upon rail and tramways. (*Patented by William Robert Lake.*)
LYON, HENRY - - - -	2667	8th Oct. 1870	Apparatus for indicating and measuring quantities.
LYON, HENRY - - - -	3000	16th Nov. 1870	Apparatus for weighing and measuring quantities and registering the same.
LYONS, RICHARD - - -	1619	4th June 1870	Thrashing machines.
LYTTLE, WILLIAM ALEXANDER	820	19th March 1870	Wheels.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.

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M'ALISTER, ALEXANDER -	1372	13th May 1870	Hammocks.
M'ALLISTER, CHARLES - -	1981	13th July 1870	Improvements in carpets and in machinery or apparatus for manufacturing the same. (*Patented by John Henry Johnson.*)
M'CABE, JOSEPH - - -	254	28th Jan. 1870	Looms for weaving.
M'CABE, WILLIAM - - -	1854	29th June 1870	Apparatus for effecting the delivery of mail bags and parcels to railway trains in motion. (*Patented by William Robert Lake.*)
M'CARTER, JOHN WALKER -	1968	12th July 1870	Condensers for steam-engines.
MACCARTNEY, WILLIAM NEWTON.	982	4th April 1870	A new or improved process for dissolving or reducing crude or manufactured indian-rubber.
M'COMB, JAMES JENNINGS -	1257	2nd May 1870	An improved hoisting machine. (*Communicated by Henry Reedy.*)
M'COMB, MARSHALL - -	1345	11th May 1870	Paddle-wheels. (*Patented by William Robert Lake.*)
M'CORKINDALE, DOUGALD -	3282	15th Dec. 1870	Puddling, heating and other furnaces.
M'CORMICK, CYRUS HALL -	932	30th March 1870	Machines for reaping and mowing. (*Patented by Thomas James Smith.*)
M'CORMICK, JAMES - -	1336	10th May 1870	Process of brewing ale and other malt liquors. (*Patented by William Robert Lake.*)
M'CRACKEN, EDWIN DODD -	2083	23rd July 1870	Apparatus for the manufacture of gas. (*Patented by William Edward Newton.*)
M'CRACKEN, EDWIN DODD -	2642	5th Oct. 1870	Working of galvanic batteries. (*Patented by Alfred Vincent Newton.*)
M'CRAW, WILLIAM - -	941	31st March 1870	Improvements in photography by processes which combine printing, painting and transferring, for the production of chromo-photographs.
M'CREADY, THOMAS LAWRENCE.	3153	1st Dec. 1870	Apparatus for giving danger and other signals, and for delivering mail bags and parcels to and from railway engines and trains in motion.
M'CREE, JAMES - - -	1786	23rd June 1870	Construction of boxes or cases for containing eggs, glass, crockery or other articles requiring to be packed separately. (*Patented by William Spence.*)
M'CREE, WILLIAM - - -	3364	24th Dec. 1870	Improvements in heating, drying and evaporating, and in apparatus to be used therein.
M'CREE, WILLIAM - - -	3399	30th Dec. 1870	Improvements in deodorizing and purifying sewage, urine and refuse matters and liquids, and in making manure therefrom, and in apparatus for those purposes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
M°Dermott, Charles - -	1832	27th June 1870	Improvements in pencils for marking on linen and other materials, and in means connected with their use.
M°Donald, James Monroe -	2294	19th Aug. 1870	Improved methods of effecting the lubrication of and exclusion of dust from carriage axle journals and other bearings, and in apparatus or mechanical devices employed therefor. (*Patented by William Robert Lake.*)
M°Donald, James Monroe -	3165	2nd Dec. 1870	Axles and axle-boxes for wheeled vehicles. (*Patented by William Robert Lake.*)
M°Dowell, Daniel - -	2008	15th July 1870	Improvements in rails for railways and tramways, and in wheel tyres for railways and tramways.
M°Eldery, John - - -	1358	12th May 1870	An improved construction and arrangement of grate bars. (*Patented by John Henry Johnson.*)
M°Elroy, John - - -	572	26th Feb. 1870	Apparatus for communicating between the guards, drivers and passengers of railway trains.
M°Ewen, James - - -	2890	2nd Nov. 1870	Apparatus for producing and applying motive-power. (*Patented by Alexander Melville Clark.*)
M°Farlane, James - -	830	21st March 1870	Improved modes, means and apparatus for and connected with the copying of letters and other documents.
M°Farlane, Thomas Duncan	1126	18th April 1870	Apparatus for shaping plastic materials.
M°Farland, Thomas Duncan	2724	15th Oct. 1870	Apparatus for shaping plastic materials.
M°Grath, John James - -	1920	7th July 1870	Construction of wheels.
M°Hardy, Robert - -	1874	2nd July 1870	An improved mode of harnessing horses to carriages, gigs and other vehicles, and in the apparatus or means employed therefor.
M°Ilwham, James - -	2763	20th Oct. 1870	Machinery for making wrought iron railway sleepers, and applicable for shaping metals for other purposes.
M°Intosh, James Anderson	1871	1st July 1870	Distilling oils.
M°Intosh, Oliver Trumbull	1867	1st July 1870	Boat-detaching apparatus. (*Patented by William Robert Lake.*)
M°Intyre, Peter - - -	3149	1st Dec. 1870	Shirts.
M°Isaac, Thomas - - -	1127	18th April 1870	An improved folding bed table for the use of invalids and others.
Mac Ivor, William - -	944	31st March 1870	Treatment of mineral oils.
Mac Ivor, William - -	3020	18th Nov. 1870	Improvements in treating hydrocarbons and other oils, and in the machinery or apparatus employed therefor.
M°Kean, James Asbury -	1104	14th April 1870	An improved machine for drilling or boring rocks, chiefly designed for working mines, tunnels and quarries, and for submarine operations. (*Patented by William Robert Lake.*)
M°Kellen, Samuel Dun-[keith.	745	14th March 1870	Certain improvements in watches and other time-keepers.
M°Kenzie, Alexander -	2579	28th Sept. 1870	Improved mechanical arrangements for raising and lowering or opening and closing the heads of carriages and vehicles.
M°Lagan, John Campbell -	758	15th March 1870	An improvement in sewing-machines. (*Communicated by John Hadley Osborn.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MacLean, Walter - -	954	1st April 1870	Improvements in printing, lithographing and zincographing, and in the production of imitation photographic and also coloured designs on textile fabrics and paper, and in the means or apparatus employed therefor.
McLean, William - -	1630	6th June 1870	Hinges.
McLoughlin, Edmund - -	700	9th March 1870	An improved method of etching relief plates for surface printing. (*Patented by William Robert Lake.*)
McLoughlin, John - -	700	9th March 1870	An improved method of etching relief plates for surface printing. (*Patented by William Robert Lake.*)
McNabb, William - -	911	29th March 1870	Improvements in bale-hoops and other bands, and in preparing, fitting and securing the ends thereof.
McNary, William Henry -	1988	14th July 1870	Counting registers applicable to counting the revolutions of shafts in various kinds of machinery, steam and other engine indicators for registering stroke or travel, indicators for gas or water meters, clocks, adding machines, and registering devices of different kinds, or for various purposes. (*Patented by William Edward Newton.*)
McNaught, John - - -	1002	6th April 1870	Improvements in steam-boiler furnaces for economizing fuel and consuming smoke.
McNaught, John - - -	1511	25th May 1870	Machinery or apparatus for washing and drying wool, yarn and other fibrous materials.
McNaught, John - - -	2772	21st Oct. 1870	Machinery or apparatus for washing, opening and drying wool and other fibrous materials, and washing yarns.
McNaught, William - -	1511	25th May 1870	Machinery or apparatus for washing and drying wool, yarn and other fibrous materials.
McNaught, William - -	2772	21st Oct. 1870	Machinery or apparatus for washing, opening and drying wool and other fibrous materials, and washing yarns.
McNaught, William, junior -	1002	6th April 1870	Improvements in steam-boiler furnaces for economizing fuel and consuming smoke.
McNeile, Alexander - -	2882	2nd Nov. 1870	Wheels of vehicles to run on common roads.
MacNeill, James - - -	465	17th Feb. 1870	Improvements in the manufacture of soap and in the modes and means or apparatus employed therefor.
McNiel, Andrew - - -	2418	6th Sept. 1870	Manufacture of salts of ammonia from ammoniacal gas liquor.
McNiel, Andrew - - -	2664	7th Oct. 1870	Process of revivifying the materials used for the purification of gas.
McVoy, Joseph Robert -	3164	2nd Dec. 1870	An improved apparatus or means for instantly detaching railway carriages from the engine while the train is in motion.
Macabies, Paul Narcisse [Joseph.	1103	14th April 1870	Water-feeding apparatus for boilers.
Macaulay, Henry - -	893	26th March 1870	Mantel register stoves and register stoves.
Macaulay, Henry - -	2917	4th Nov. 1870	Breech-loading fire arms.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MACDERMOTT, MARTIN - -	404	11th Feb. 1870	Improvements in the manufacture of twisted metal bars to form augers and drills, and an improved composite machine for twisting such augers and drills for screw-cutting, and for cutting metal rods, bars and tubes. (*Communicated by Monsieur Jean Boulay.*)
MACDERMOTT, MARTIN - -	2220	10th Aug. 1870	Manufacture of twisted metal bars to form augers and drills, and an improved composite machine for twisting such augers and drills, and for cutting screws. (*Communicated by Jean Boulay.*)
MACDERMOTT, MARTIN - -	2316	23rd Aug. 1870	Improved apparatus for boring in rock, coal, mineral, slate and other similar substances. (*Communicated by Ferdinand Villepigue.*)
MACDONELL, ERNEST LESLIE-	1698	5th July 1870	New or improved means of facilitating and effecting the traction of wheel carriages drawn by horse power.
MACEDO, JOAQUIM ANTONIO [DE.	2177	4th Aug. 1870	Obtaining motive-power from a fall of water.
MACINTOSH, JOHN - - -	3200	6th Dec. 1870	Compounds for waterproofing textile fabrics and other surfaces.
MACINTOSH, JOHN - - -	3201	6th Dec. 1870	Varnishes.
MACK, WILLIAM BLANE -	1153	20th April 1870	Apparatus to promote circulation in locomotive steam-boilers. (*Patented by Robert Sinclair.*)
MACKAY, ROBERT - - -	2362	29th Aug. 1870	Manufacture of aërated beverages.
MACKENZIE, JAMES - -	152	18th Jan. 1870	Improved apparatus for coupling railway carriages.
MACNAIR, ALEXANDER HILL -	1303	6th May 1870	Permanent way of railways.
MACNEILL, THOMAS TELFORD	3280	15th Dec. 1870	Barometers.
MACQUEEN, JAMES - - -	195	22nd Jan. 1870	Self-acting mules.
MACQUEEN, JAMES - - -	1480	23rd May 1870	Certain improvements in carding-engines.
MAHLER, CHARLES - -	281	31st Jan. 1870.	An improved windmill which when divested of a portion of its regulating parts can also be used as a water-wheel or as a ship's propeller.
MAILLET, EMILE CHARLES -	1967	12th July 1870	Process of and apparatus for carburetting gases or atmospheric air, so as to render the same applicable for lighting, heating or producing motive-power. (*Patented by Bristow Hunt.*)
MAITLAND, WILLIAM HENRY-	2933	7th Nov. 1870	Apparatus for registering and checking the money taken for admission to theatres and other places.
MAITLAND, WILLIAM HENRY-	3218	7th Dec. 1870	An improved fabric suitable for carpet linings and other purposes, and improved machinery for manufacturing the same.
MAITLAND, WILLIAM HENRY-	3367	24th Dec. 1870	Improvements in medicating cotton and other fibres for sanitary and surgical purposes, and in machinery employed therein.
MAITLAND, WILLIAM LAUDER- [DALE.	2933	7th Nov. 1870	Apparatus for registering and checking the money taken for admission to theatres and other places.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MAITRE, EDOUARD - - -	1482	23rd May 1870	A new and improved mode of manufacturing wooden floors and wainscots. (*Patented by Henri Adrien Bonneville.*)
MAKINS, JOHN EDWARD -	2043	20th July 1870	An improved spring fastener for railway carriage and other windows.
MALAM, WILLIAM - - -	1535	26th May 1870	An improved furnace or apparatus for consuming creosote and other hydrocarbons for the production of heat.
MALLET, HENRY - - -	1046	9th April 1870	Manufacture of lace in twist lace machines.
MALLORY, SAMUEL - -	3193	5th Dec. 1870	An improved apparatus for "dipping" candles.
MANBRÉ, ALEXANDRE - -	1562	28th May 1870	Improvements in apparatus applicable to the conversion of cereal and vegetable substances into saccharine matter, in treating and purifying saccharine substances obtained from starch, malt, fruits and vegetables, in treating fatty matters, and in the manufacture of chemical products.
MANN, JOHN RANDALL - -	577	26th Feb. 1870	Improvements in and connected with water-closets and other sanitary appliances.
MANSEL, CHARLOTTE - -	2713	14th Oct. 1870	An improved safety knitting sheath.
MANTON, HENRY - - -	753	15th March 1870	Swivels.
MANTON, JOHN SHAKESPEARE	3359	23rd Dec. 1870	Manufacture of covered buttons.
MANWARING, WILLIAM - -	2372	30th Aug. 1870	Cutting apparatus of reaping and mowing machines.
MARCHANT, ROBERT MUDGE -	1086	13th April 1870	Improved means for producing motive-power.
MARCHISIO, GIACOMO EDUARDO	2553	23rd Sept. 1870	Making, refining and purifying an isolating oil applicable to the manufacture of paints and varnishes.
MARCHISIO, GIACOMO EDUARDO	3307	19th Dec. 1870	Improvements in the process of extracting oil from olives or olive cakes, and in machinery to be employed therefor
MARIE, EUGÈNE CYPRIEN -	25	4th Jan. 1870	Machinery for manufacturing mother-of-pearl, ivory, bone or other hard buttons.
MARIN, FRANÇOIS MAURICE -	1771	21st June 1870	Improvements in railways and in the engines and carriages to run thereon. (*Patented by John Henry Johnson.*)
MARINONI, HIPPOLYTE AUGUSTE.	797	17th March 1870	Improvements in moulds used in stereotyping and in apparatus for producing the same. (*Patented by Alexander Melville Clark.*)
MARIOTTI, LOUIS - - -	3321	20th Dec. 1870	Method or process of preserving meat and fish.
MARKLAND, THOMAS - -	290	1st Feb. 1870	Hydro-extractors.
MARRINER, EDWARD DAVID ARTHUR.	1224	28th April 1870	Machinery or apparatus for preparing wool or other fibrous substances for combing.
MARRIOTT, AMBROSE - -	1889	4th July 1870	Construction and regulation of boilers for heating buildings.
MARRIOTT, WILLIAM - -	1952	9th July 1870	Improvements in the manufacture of iron salts or compounds, and in the purification of gas.
MARSDEN, JOSEPH - - -	2192	6th Aug. 1870	Improved means or apparatus for protecting or shielding soldiers in battle.
MARSDEN, ROBERT - -	2779	21st Oct. 1870	Improvements in and additions to skates. (*Communicated by Adam Elijah Clarke.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MARSHALL, CHARLES DUDLEY	1631	6th June 1870	Improvements in attaching or fixing the devices for effecting the water mark in paper to the covers of the dandy rolls and to the moulds used in the manufacture of paper, also in the construction of such dandy rolls, covers and moulds.
MARSHALL, GENERAL ELISHA [GAYLORD.	1383	14th May 1870	Sewing-machines. (*Patented by William Robert Lake.*)
MARSHALL, JAMES - - -	3355	22nd Dec. 1870	Improvements in the slide valves of steam and other motive-power engines, and in apparatus connected therewith.
MARSHALL, JAMES GARTH -	2200	8th Aug. 1870	Improvements in ventilation and in the purification of air.
MARSHALL, JOHN - - -	94	12th Jan. 1870	Apparatus for facilitating human locomotion.
MARSHALL, JOHN - - -	2390	2nd Sept. 1870	Construction of railway chairs.
MARSHALL, JOHN - - -	3278	14th Dec. 1870	Apparatus for making tubes.
MARSHALL, THOMAS ALLEN -	1631	6th June 1870	Improvements in attaching or fixing the devices for effecting the water mark in paper to the covers of the dandy rolls and to the moulds used in the manufacture of paper, also in the construction of such dandy rolls, covers and moulds.
MARSHALL, THOMAS JOHN -	3160	2nd Dec. 1870	A new or improved method of and apparatus for washing or cleansing, whilst in motion, the felts used in making paper by machine.
MARSHALL, WILLIAM ALFRED	2512	17th Sept. 1870	Earth-boring apparatus.
MARTIN, ALEXANDER HENNAH	574	26th Feb. 1870	Looms for weaving.
MARTIN, CHARLES - - -	3132	30th Nov. 1870	Improvements in the construction of ladders for general purposes, also applicable as a fire-escape.
MARTIN, JOHN - - -	951	31st March 1870	Protecting goods, wares or stock in railway and other trucks, waggons or vehicles, and buildings.
MARTIN, WILLIAM - - -	1811	25th June 1870	Improvements in the manufacture of woven gauze fabrics made on bobbin net or twist lace machines, and in the machinery or apparatus employed therein.
MARTIN, WILLIAM - - -	2995	16th Nov. 1870	Improved moveable weirs worked by self-acting means.
MARTINI, FRIEDRICH VON -	603	1st March 1870	Breech-loading fire-arms. (*Patented by William Lloyd Wise.*)
MASON, AMASA - - -	372	9th Feb. 1870	Marine and other compasses.
MASON, AMASA - - -	2457	10th Sept. 1870	Machinery for making paper bags.
MASON, AMASA - - -	2695	12th Oct. 1870	An improved process for making pulp or half-stuff from wood and other vegetable fibres. (*Communicated by Thomas Levens.*)
MASON, ISAAC - - -	450	16th Feb. 1870	Apparatus for measuring oil and other liquids.
MASON, JOHN ARLIDGE - -	2039	20th July 1870	Sewing-machines.
MASON, JOSIAH - - -	2062	21st July 1870	Manufacture of steel.
MASON, JOSIAH - - -	2677	10th Oct. 1870	Manufacture of manganese and alloys of manganese.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MASON, WILLIAM McGEORGE	398	10th Feb. 1870	Improvements in utilising water pressure in raising liquids and in apparatus therefor, also in pressure-reducing valves for the said apparatus and applicable otherwise.
MASSI, CHARLES - - -	1242	30th April 1870	Construction of locks and keys.
MASSIN, FRANÇOIS - - -	1893	4th July 1870	Frames for porte-monnaies, pocket books, cigar cases and similar articles. (*Patented by William Edward Gedge.*)
MASSON, JAMES - - -	3084	24th Nov. 1870	Hydraulic presses for pressing cotton, jute and other fibrous substances. (*Patented by Saint John Vincent Day.*)
MASUREL, ALBERIC BENOIT, [the younger.	724	11th March 1870	Machinery or apparatus for combing and straightening flax, hemp, jute and other fibrous substances. (*Patented by John Henry Johnson.*)
MATHER, COLIN - - -	1575	30th May 1870	Certain improvements in machinery or apparatus used in sizing and dressing yarn.
MATHER, WILLIAM - -	2741	18th Oct. 1870	Machinery and apparatus for breaking nuts and separating the husks and shells from the kernels.
MATHIEU, JULES - - -	437	15th Feb. 1870	Construction of caskets or boxes for jewels and other articles. (*Patented by Henry Bernoulli Barlow.*)
MATHIEU, JULES - - -	438	15th Feb. 1870	Arrangement and construction of cases for bottles, glasses or drinking cups and other articles. (*Patented by Henry Bernoulli Barlow.*)
MATHIEU, JULES - - -	536	23rd Feb. 1870	Machinery or apparatus for straining paper pulp. (*Patented by John Henry Johnson.*)
MATHIVET, JEAN VICTOR -	2652	6th Oct. 1870	Spring weighing scales. (*Patented by George Haseltine.*)
MATTHEWS, COLIN PAGET -	1275	4th May 1870	An improved compound or preparation to be applied to the insides of casks and other vessels.
MATTHEWS, HENRY - -	456	16th Feb. 1870	Manufacture of artificial fuel.
MATTHEWS, JAMES ALEX- [ANDER.	644	4th March 1870	Machinery for moulding bricks, tiles and other like articles.
MAVITTA, WILLIAM - -	168	19th Jan. 1870	Sights for fire-arms and ordnance.
MAW, ARTHUR - - -	2005	15th July 1870	Improvements in apparatus to be employed in the preparation of pulverized clay used in the manufacture of tiles, bricks, pottery and other articles of earthenware or china.
MAW, EDWIN - - - -	503	21st Feb. 1870	Improvements in pipes, gutters, troughing and other apparatus for irrigating and manuring land, and in girders and framing for supporting the said apparatus and for other purposes.
MAWE, WILLIAM - - -	162	19th Jan. 1870	Safes and strong rooms.
MAWSON, SUNDERLAND - -	860	24th March 1870	Apparatus employed in the administration of nitrous oxide gas (or other gas that may be inhaled) for indicating the quantity at each and every inhalation.
MAXFIELD, ARTHUR ISAAC -	2301	20th Aug. 1870	Certain improvements in sewing-machines.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Maximos, Nicholas Constantine.	1969	12th July 1870	Improvements in drying malt, grain and other substances, and in the apparatus therefor. (*Communicated by Attilio R. Petracchi, Helem Merrill, Robert Heneage and Henry Spendelow.*)
Maxwell, James Riley -	1413	17th May 1870	Steam pumping or blowing engines. (*Patented by Martin Benson.*)
May, Charles Neale - -	548	24th Feb. 1870	Feed water heaters for steam generators.
May, Chas. Neale - -	1864	30th June 1870	Improvements applicable to the furnaces of steam-boilers.
May, John - - - - -	1292	5th May 1870	Machinery or apparatus for spinning wool and other fibres into yarn.
May, Matthew - - -	1292	5th May 1870	Machinery or apparatus for spinning wool and other fibres into yarn.
Mayall, Thomas Jefferson	1505	24th May 1870	Improvements in parlour foot-balls and other india-rubber articles, which improvements relate partly to illustrating the surfaces of such articles and partly to inflating the same.
Mayer, Joseph - - -	1010	6th April 1870	Specula for surgical purposes.
Mayer, Joseph - - -	1100	14th April 1870	Production of metallic alloys of manganese. (*Patented by Alfred Vincent Newton.*)
Maynard, Robert - -	538	24th Feb. 1870	An improvement in portable chaff engines.
Mayo, Urial King - -	2892	2nd Nov. 1870	Improvements in the preparation of artificial teeth and in the manufacture of mouth plates or supports therefor. (*Communicated by Josephus Brockway.*)
Mays, Jonathan Aldous -	2746	19th Oct. 1870	India-rubber or caoutchouc tires for wheels.
Meacock, James - - -	2357	27th Aug. 1870	Improved means or apparatus for enabling tramway and other omnibuses or vehicles to run upon and leave tramrails at any point.
Medlock, Henry - - -	1845	28th June 1870	An improved method of and apparatus for separating aqueous from oleaginous substances.
Meese, David Bowen - -	727	11th March 1870	Clocks.
Mégy, Léandre - - -	1777	22nd June 1870	An internal spring coupling and brake for transmitting, stopping or regulating motion.
Mehl, Ernest - - -	1995	14th July 1870	Fire-bars and grates. (*Patented by Alfred Wenner.*)
Meissner, Ackermann and Company.	2596	30th Sept. 1870	An improved valve apparatus applicable to vessels for containing petroleum and other volatile oils and spirits. (*Patented by George Henry Funck.*)
Meiter, Charles William -	2918	4th Nov. 1870	An improved method of tapping barrels, casks and other vessels in which taps or cocks are used to draw off the liquid contents thereof.
Meixner, Frederick Nicholas.	1384	14th May 1870	Boilers for heating water for baths and for domestic and other purposes.
Melany, Joseph Michel -	1519	25th May 1870	Machinery for cutting wood screws and slot bolts. (*Patented by Alexander Melville Clark.*)
Mellard, Ralph - - -	1378	14th May 1870	Construction of pressing machines applicable to pressing cheese and other articles.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MENDEZ, JUAN JOSÉ - -	1781	22nd June 1870	Ships and vessels.
MENNONS, MARC ANTOINE [FRANÇOIS.	1415	17th May 1870	Manufacture of certain pigments or paints. (*Patented by Bristow Hunt.*)
MENTION, ALPHONSE - -	248	27th Jan. 1870	Improvements in permanent way and in wheels to be used therewith. (*Patented by John Bevan Smith.*)
MENZIES, WILLIAM JONES -	97	12th Jan. 1870	Improved means for conveying and storing vitriol.
MEREDITH, STEPHEN - -	660	5th March 1870	Puddling and balling furnaces.
MEREDITH, STEPHEN - -	2404	3rd Sept. 1870	Puddling and balling furnaces.
MERFIELD, JOHN - - -	2832	27th Oct. 1870	Apparatus for purifying sewage.
MERRILL, HELEM - - -	1969	12th July 1870	Improvements in drying malt, grain and other substances, and in the apparatus therefor. (*Patented by Nicholas Constantine Marimos.*)
MERRILL, JOSHUA - - -	2544	22nd Sept. 1870	Manufacture of hydrocarbon oils made from petroleum, bituminous coals, shales, schists and other bituminous substances. (*Patented by George Tomlinson Bousfield.*)
MERRILL, JOSHUA - - -	3182	3rd Dec. 1870	Manufacture of rosin oil. (*Patented by George Tomlinson Bousfield.*)
MERRILL, RUFUS SPAULDING -	1660	8th June 1870	Improvements in producing light from heavy hydro-carbons and in apparatus for that purpose. (*Patented by John Henry Johnson.*)
MERRIMAN, CLARK SPENCER -	3214	7th Dec. 1870	Improved life preserving clothing. (*Patented by Alexander Melville Clark.*)
MERRYWEATHER, RICHARD [MOSES.	2413	5th Sept. 1870	Fire-engines.
MERRYWEATHER, RICHARD [MOSES.	2836	27th Oct. 1870	Steam fire-engines.
MESNARD, ALFRED DIDIER MARIE, VISCOUNTE DE CHOUSY.	580	26th Feb. 1870	An improved process for converting human excrement into fuel and manure.
METCALF, AARON - - -	1838	28th June 1870	Improved strapping motion in mules for spinning.
METCALF, JOHN - - -	956	1st April 1870	Method of working check straps in looms for weaving.
MEW, GEORGE OWEN - -	3132	30th Nov. 1870	Improvements in the construction of ladders for general purposes, also applicable as a fire-escape.
MEWBURN, JOHN CLAYTON -	779	16th March 1870	Apparatus for raising and forcing fluids and for cleaning suction strainers by steam. (*Communicated by Alexander Friedmann.*)
MEWBURN, JOHN CLAYTON -	3224	8th Dec. 1870	Construction of boilers for locomotive engines. (*Communicated by Mr. Becker.*)
MEWBURN, JOHN CLAYTON -	3225	8th Dec. 1870	Apparatus for injecting and ejecting fluids. (*Communicated by Alexander Friedmann.*)
MEWBURN, JOHN CLAYTON -	3250	12th Dec. 1870	Treating lichens or moss in order to obtain sugar or saccharine matter and spirit therefrom. (*Communicated by Henry Shield.*)
MEYER, LEOPOLD - - -	339	5th Feb. 1870	An improved button or fastening for ruffles and other articles of dress.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MICHELE, VITALE DOMENICO [DE.	3104	26th Nov. 1870	Apparatus for ascertaining the breaking strain of concrete, cement and other similar blocks or bodies.
MICHELS, JOHN - - -	49	6th Jan. 1870	Method of and apparatus for fastening and unfastening the doors of railway carriages.
MICHENER, JOHN H. - -	1599	2nd June 1870	Couplings for railway carrriages. (*Patented by William Robert Lake.*)
MICHENER, JOHN H. - -	3120	28th Nov. 1870	Couplings for railway carriages. (*Patented by William Robert Lake.*)
MIDDLETON, JOHN WARE -	3087	24th Nov. 1870	Improvements in the manufacture of iron and steel, and castings of the same, and in apparatus employed therefor. (*Patented by George Haseltine.*)
MIGNOT, LEON - - -	1579	30th May 1870	Improved machinery for making ice and for other refrigerating purposes.
MILBURN, WILLIAM - -	3113	28th Nov. 1870	Lawn mowing machines.
MILDÉ, CHARLES FERDINAND	2339	25th Aug. 1870	Electric clock-work. (*Patented by William Edward Newton.*)
MILES, JOHN HENRY - -	859	23rd March 1870	Velocipedes.
MILLAR, ADAM - - -	475	17th Feb. 1870	Improvements in stamps for marking linen, and in marking ink for the same, such stamps being also applicable to other purposes.
MILLAR, JOHN - - -	832	21st March 1870	New or improved motors or motive-power mechanism or machines for obtaining and transmitting motive-power.
MILLARD, DAVID JOHNSON -	2935	7th Nov. 1870	An improved metallic composition for roofing, linings, pipes and other purposes. (*Patented by William Edward Newton.*)
MILLER, CHARLES EMANUEL -	2793	24th Oct. 1870	Apparatus for hammering and planishing sheet metals.
MILLER, DAVID - - - -	1840	28th June 1870	Apparatus for dyeing or otherwise treating yarns.
MILLER, INGLEBY THOMAS -	2170	4th Aug. 1870	A machine for striking blows by hammers, and for drilling holes in rock, stone and other hard substances.
MILLER, JAMES - - -	1369	13th May 1870	Manufacture of elastic fabrics suitable for gussets.
MILLER, JAMES, junior - -	1369	13th May 1870	Manufacture of elastic fabrics suitable for gussets.
MILLER, JAMES JOHN, junr. -	51	6th Jan. 1870	Apparatus for reversing marine and other large steam-engines.
MILLER, ROBERT - - -	1715	15th June 1870	Improvements in the manufacture of clay or earthenware pipes and in the mechanism employed therefor.
MILLER, THOMAS PATERSON -	1840	28th June 1870	Apparatus for dyeing or otherwise treating yarns.
MILLER, WILLIAM - - -	2949	9th Nov. 1870	Improvements in or connected with furnaces for boilers, evaporating vessels and stills.
MILLO, FREDERICK - - -	2079	23rd July 1870	Manufacture of the reeds employed in looms for weaving.
MILLS, BENJAMIN JOSEPH [BARNARD.	90	12th Jan. 1870	Improvements in tramways and in vehicles to be run thereon. (*Communicated by William Judson Addis.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MILLS, BENJAMIN JOSEPH [BARNARD.	314	3rd Feb. 1870	Fans. (*Communicated by Jacques Roehrig.*)
MILLS, BENJAMIN JOSEPH [BARNARD.	1135	19th April 1870	Studs or buttons. (*Communicated by John Braxton Carter and William Dudley Knowles.*)
MILLS, BENJAMIN JOSEPH [BARNARD.	1549	27th May 1870	Safety attachments for steam generators. (*Communicated by Hiram Kimball.*)
MILLS, BENJAMIN JOSEPH [BARNARD.	1691	11th June 1870	Improvements in steam and other vessels, and in steam-engines, steam-boilers and propellers applicable thereto, parts of which improvements are adapted for other purposes. (*Communicated by James Montgomery.*)
MILLS, BENJAMIN JOSEPH [BARNARD.	1754	18th June 1870	Doffing and dividing apparatus applicable to continuous cards. (*Communicated by J. S. Bolette.*)
MILLS, BENJAMIN JOSEPH [BARNARD.	1766	21st June 1870	Process and apparatus for making soap. (*Communicated by Moses Hyde and Francis Hyde.*)
MILLS, BENJAMIN JOSEPH [BARNARD.	2052	20th July 1870	Ovens. (*Communicated by Hosea Ball.*)
MILLS, BENJAMIN JOSEPH [BARNARD.	3117	28th Nov. 1870	An automatic ventilator, alarm and pump for vessels. (*Communicated by William Fitz James Thiers, P. D. Roddey and Edward Parkman.*)
MILLS, DANIEL - - -	1237	30th April 1870	Apparatus for supporting and guiding the work in machines for sewing boots and shoes.
MILLS, FREDERICK - - -	2449	10th Sept. 1870	An improved apparatus for ironing and goffering fabrics. (*Communicated by Doctor S. Charles Smith.*)
MILLS, THOMAS - - -	3025	18th Nov. 1870	Improvements in steam generators and in apparatus in connection therewith.
MILNE, JOHN - - - -	840	22nd March 1870	Fire-grates.
MILNES, FRANK - - -	1479	21st May 1870	Apparatus for healthily exercising the human frame.
MILROY, JOHN - - -	2255	13th Aug. 1870	Constructing cylindrical or columnar piers or foundations.
MILTON, JAMES - - -	1162	21st April 1870	Yarn holders.
MILWARD, VICTOR - - -	1178	22nd April 1870	An improvement in wrappers for papering needles, and a new or improved instrument or apparatus for measuring or counting needles for papering.
MINNS, HENRY ROYALL - -	2132	29th July 1870	Improved mechanism for locking or securely connecting the doors of safes, strong rooms and other like depositories, to the frames thereof.
MINTON, RICHARD ROWLANDS	901	28th March 1870	An improved varnish paint.
MIRFIELD, MATTHEW - -	3293	16th Dec. 1870	Machinery or apparatus for combing wool or other fibrous substances.
MIRRLEES, JAMES BUCHANAN	1628	4th June 1870	Improvements in desiccating sugar-cane refuse (known as megass, bagassa or trash) and in the apparatus or means employed therefor.
MITCHELL, WILLIAM CHARLES	773	16th March 1870	Certain improvements in books.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MITCHELL, WILLIAM LAW-[RENCE.	1453	19th May 1870	Looms for weaving.
MITCHELL, WILLIAM LAW-[RENCE.	2085	23rd July 1870	Looms for weaving.
MOBERLY, CHARLES HENRY -	2774	21st Oct. 1870	Construction of evaporating apparatus.
MOFFATT, ALEXANDER [CHARLES.	3309	19th Dec. 1870	Apparatus for regulating the motion and action of door springs.
MOLE, DOUGLAS - - -	1833	28th June 1870	Eliptical adjustments of door springs or hinges.
MOLE, DOUGLAS - - -	2640	5th Oct. 1870	Spring hinges.
MOLE, JAMES HENRY - -	753	15th March 1870	Swivels.
MOLL, RICHARD ALBERT -	4	1st Jan. 1870	Suspension tramways or roads.
MOLLER, GEORGE HENRY -	2415	5th Sept. 1870	Improved machinery for cutting loaf sugar into cubes. (*Patented by William Edward Newton.*)
MOLLER, GEORGE HENRY -	3151	1st Dec. 1870	Improved machinery for cutting loaf sugar. (*Patented by Alfred Vincent Newton.*)
MOND, LUDWIG - - -	1312	7th May 1870	Manufacture of chlorine.
MONIER, JOSEPH - - -	1999	15th July 1870	An improved method of incorporating metal and cement in the construction of tanks, boxes, vases or pots for horticultural and other purposes, water and other pipes and conduits, artificial ponds, reservoirs, basins and rivulets, embankments of watercourses and analogous works. (*Patented by William Edward Gedge.*)
MONTAGU, CHARLES - -	1026	7th April 1870	Manufacture of waterproof garments.
MONTEFIORE, JOSEPH LEVI -	1408	17th May 1870	Manufacture of bronze. (*Communicated by George Montefiore Levi and Charles Künzel.*)
MONTGOMERY, JAMES - -	1691	11th June 1870	Improvements in steam and other vessels, and in steam-engines, steam-boilers and propellers applicable thereto, parts of which improvements are adapted for other purposes. (*Patented by Benjamin Joseph Barnard Mills.*)
MONTGOMERY, RICHARD -	3144	30th Nov. 1870	Manufacture of longitudinally-corrugated beams or rails of steel or iron, for railways and for architectural and other purposes.
MOODY, JOSEPH - - -	2614	1st Oct. 1870	Saddles.
MOON, HENRY - - -	2552	23rd Sept. 1870	Indicators for cabs and such like public vehicles.
MOORE, HIRAM WASHINGTON	605	1st March 1870	Railway carriage wheels. (*Patented by Alexander Melville Clark.*)
MOORE, JOHN - - - -	857	23rd March 1870	Improvements in metal bushes for the bung holes of casks and in the mode of and apparatus for securing the same therein.
MOORE, JOHN - - - -	1719	16th June 1870	Looms for weaving.
MOORE, JOHN - - - -	2837	28th Oct. 1870	Small-ware looms.
MOORE, LEON EUGENE CAME-[RON.	1215	27th April 1870	Apparatus for absorbing the overflow of oil in hydro-carbon and other lamps. (*Patented by Christopher Wood.*)
MOORE, THOMAS - - -	2581	28th Sept. 1870	Pulley blocks for raising and lowering sacks and other weights.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Moore, William - - -	1702	14th June 1870	Securing bolts and nuts.
Moore, William Boyle -	462	17th Feb. 1870	Sewing-machines.
Moore, William Boyle, [junior.	462	17th Feb. 1870	Sewing-machines.
Moore, William Samuel -	1556	27th May 1870	An improvement in hand mirrors and other like articles.
Moorhouse, Samuel - -	561	25th Feb. 1870	Construction of furnaces for steam-boilers.
Mootham, Orby Cicel - -	250	27th Jan. 1870	Umbrellas, parasols and sunshades.
Morand, Augustus - -	1190	23rd April 1870	Improvements in kilns or ovens and in apparatus employed therewith, chiefly designed for drying and burning bricks, tiles and ceramic ware.
More, James - - - - -	996	5th April 1870	A new or improved arrangement of apparatus for forcing and projecting liquids or fluids, and raising the temperature of the same.
More, John - - - - -	2545	22nd Sept. 1870	Cutter heads and cutters of cylindrical wood-planing machines.
Morewood, Edmund - -	1780	22nd June 1870	Manufacture of tin and terne plates.
Morey, Claude - - -	535	23rd Feb. 1870	Apparatus for binding together or filing papers. (*Patented by Alexander Melville Clark.*)
Morfit, Campbell - -	2303	20th Aug. 1870	Manufacture of super-phosphate of lime.
Morfit, Campbell - -	2382	1st Sept. 1870	An improved alloy or metal. (*Communicated by James C. Booth.*)
Morfit, Campbell - -	2425	7th Sept. 1870	Manufacture of manure.
Morgan, George Edward -	2345	26th Aug. 1870	An improved notation to be employed in facilitating the teaching of music.
Morgan, James Clifford -	893	26th March 1870	Mantel register stoves and register stoves.
Morgan, Walter - - -	2920	5th Nov. 1870	Roofs for buildings.
Morgan, William - -	774	16th March 1870	Apparatus for the preservation of life from fire.
Morgan, William - -	1541	27th May 1870	Carriage axles and bearings.
Morley, Cornelius William	2426	7th Sept. 1870	Improvements in gas-burners and in the construction of the same.
Morrell, James Conyers -	630	3rd March 1870	Apparatus applicable to the treatment of towns' and domestic refuse for sanitary purposes.
Morrell, John - - -	2346	26th Aug. 1870	Improvements in the packing of bacon, hams and lard, and in the mode of preserving bacon and hams.
Morris, John - - -	740	14th March 1870	Jacquard apparatus.
Morris, John - - -	1645	7th June 1870	Machinery for shedding power loom warps.
Morris, Richard - - -	58	7th Jan. 1870	Treating shoddy and other animal waste to obtain ammonia and salts of ammonia therefrom.
Morrison, David Graeme -	1125	18th April 1870	Safety apparatus for steam-boilers.
Morrison, James - - -	422	12th Feb. 1870	Gas stoves.
Morrison, James - - -	3356	22nd Dec. 1870	Improvements in locks and fastenings especially applicable for railway carriage and other doors.
Morrison. James Beall -	2409	3rd Sept. 1870	Flexible shafting and apparatus connected therewith for transmitting power. (*Patented by George Haseltine.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Morrison, John - - -	3249	12th Dec. 1870	Steam-boilers.
Mort, Alfred Manks - -	308	2nd Feb. 1870	A new compound and process for eliminating diseases and the cause of disease from the human body.
Mort, Thomas Sutcliffe -	3210	6th Dec. 1870	Cooling or freezing machines. (*Patented by William Mort.*)
Mort, William - - -	3210	6th Dec. 1870	Cooling or freezing machines. (*Communicated by Eugene Dominique Nicolle and Thomas Sutcliffe Mort.*)
Morton, John S. - - -	511	21st Feb. 1870	An improved pneumatic engine. (*Patented by William Robert Lake.*)
Morton, Robert - - -	1814	27th June 1870	Improvements in apparatus for cooling liquids, which improvements are also applicable to distillation and surface condensation.
Morton, Robert - - -	2196	8th Aug. 1870	Multitubular apparatus for cooling or heating liquids for distillation and condensation.
Moseley, Charles - -	1975	13th July 1870	Manufacture and construction of india-rubber cushions for billiard tables.
Moseley, Thomas W. H. -	1498	24th May 1870	Piles for engineering purposes. (*Patented by Evan Leigh.*)
Mosley, Aaron - - -	1049	9th April 1870	Jacquard machinery.
Mosley, John - - -	2056	21st July 1870	Jacquard apparatus.
Mosman, Daniel Frank -	2528	20th Sept. 1870	Cut-off valve gear for steam-engines. (*Patented by David Hunter Brandon.*)
Moss, Edward - - -	1662	8th June 1870	Manufacture of leather for mill bands. (*Communicated by Henry Klemm and Charles Klemm.*)
Moss, Edward - - -	2210	9th Aug. 1870	Manufacture of leather for picking bands, lathes and other articles requiring leather of an extraordinary toughness, durability and strength. (*Communicated by Messieurs Klemm, Brothers.*)
Motay, Cyprien Marie Tessié du.	849	22nd March 1870	Improved processes for the treatment of ores in order to extract copper therefrom. (*Patented by Thomas James Smith.*)
Motay, Cyprien Marie Tessié du.	878	25th March 1870	A new or improved docimastic process and methods for the treatment of the simple sulphurets, the complex sulphurets and the arsenio-sulphurets of lead, antimony, copper and iron, as well as coppery matts and coppers containing precious metals, in order to extract silver and gold therefrom. (*Patented by Thomas James Smith.*)
Motay, Cyprien Marie Tessié du.	1061	11th April 1870	Treating excremental matters. (*Patented by Thomas James Smith.*)
Motay, Cyprien Marie Tessié du.	1746	17th June 1870	Producing caustic soda and caustic potash. (*Patented by Thomas James Smith.*)
Motay, Cyprien Marie Tessié du.	1750	18th June 1870	Improvements in treating copper pyrites and in apparatus therefor. (*Patented by Thomas James Smith.*)
Motiron, Pierre - - -	2313	22nd Aug. 1870	Improvements in cord making and in the apparatus connected therewith.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Motte, François - - -	535	23rd Feb. 1870	Apparatus for binding together or filing papers. (*Patented by Alexander Melville Clark.*)
Mouillard, Amédée - -	1755	18th June 1870	Improvements in apparatus for raising sunken bodies and in the mode of operating the same. (*Patented by Alexander Melville Clark.*)
Mouline, Louis Eugene -	2076	23rd July 1870	An improved method of reeling silk.
Moulton, Joel - - -	786	16th March 1870	Certain improvements in elastic rolls or tubing for clothes wringers and various other purposes, as well as in machinery for manufacturing the same.
Mouret, Louis Jérome Napoléon.	2213	9th Aug. 1870	Imparting to globes by means of clockwork the various phenomena and phases of the earth.
Mouriés, Jean Joseph Auguste.	184	21st Jan. 1870	An improved process for preserving bread in a reduced bulk. (*Patented by William Edward Gedge.*)
Moussard, Xavier - -	1456	19th May 1870	Apparatus for the production of gases for lighting and heating purposes. (*Patented by Alexander Melville Clark.*)
Mowbray, William Robert -	951	31st March 1870	Protecting goods, wares or stock in railway and other trucks, waggons or vehicles, and buildings.
Moysey, John - - -	722	11th March 1870	Hackling machinery applicable especially to phormium tenax and other long fibres.
Muir, Hugh - - - -	2006	15th July 1870	Purchase capstans.
Muir, Matthew Andrew -	2763	20th Oct. 1870	Machinery for making wrought-iron railway sleepers, and applicable for shaping metals for other purposes.
Mulholland, Henry - -	3018	17th Nov. 1870	Improvements in the manufacture of steel horse-shoe nails and in machinery employed therefor. (*Patented by George Haseltine.*)
Müller, Auguste de - -	1670	9th June 1870	Preparation of corks for rendering them impermeable and to preserve them from decay. (*Patented by Charles Denton Abel.*)
Muller, Jan Anthony - -	2820	27th Oct. 1870	Outlet or jet pipes of fire-engines, high pressure mains and other apparatus. (*Patented by Edward Thomas Hughes.*)
Mulloney, Samuel Whitehall.	270	29th Jan. 1870	Weaving of seamless articles.
Mulock, Thomas Edmonds -	2342	26th Aug. 1870	Apparatus for mounting and working a combination of fire-arm barrels.
Murdoch, Hunter Henry -	1927	7th July 1870	Combination locks and padlocks and keys for the same. (*Communicated by Ernest Baudot, Oscar de Négrier, Isidore Farinaux and Edward Roettger.*)
Murdoch, Hunter Henry -	2644	5th Oct. 1870	New improved mechanism for weaving without cards, which mechanism is applicable to all looms. (*Communicated by Count Peter Ambjorn Sparre.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
MURDOCH, HUNTER HENRY -	3108	26th Nov. 1870	Combination locks and padlocks and keys for the same. (*Communicated by Ernest Baudot, Oscar de Nègrier, Isidore Farinaux and Edward Roettger.*)
MURFEY, ELIZA DEXTER -	1401	16th May 1870	Manufacture of bearings, slides and packings for steam-engines and other machinery. (*Patented by John Henry Johnson.*)
MURFEY, ELIZA DEXTER -	1997	14th July 1870	Improvements in packings and in bearing surfaces, and in the preparation or treatment of materials composing the same. (*Patented by John Henry Johnson.*)
MURFEY, ELIZA DEXTER -	2663	7th Oct. 1870	Improvements in bearings, packing for shafts, spindles, rods and other like pieces of machinery, and in materials employed in the manufacture of such bearings and packings. (*Patented by John Henry Johnson.*)
MURFEY, ELIZA DEXTER -	2879	1st Nov. 1870	Improvements in boxes and bearings for axles and other shafts, and in compositions to be applied thereto. (*Patented by John Henry Johnson.*)
MURPHY, NICHOLAS - -	1117	16th April 1870	An improved method of and apparatus for securing and measuring liquids.
MURRAY, CHARLES HENRY -	1612	3rd June 1870	Machinery for pressing bricks, tiles and other articles made of clay or other plastic substances.
MURRAY, GEORGE WILSON -	2511	17th Sept. 1870	Means or apparatus employed in ploughing and tilling land.
MURRAY, GILBERT - - -	2727	17th Oct. 1870	Ploughs.
MURRAY, PETER - - -	777	16th March 1870	Differential pulley blocks and other apparatus for moving heavy bodies.
MURRAY, PETER - - -	2501	16th Sept. 1870	Differential pulley blocks and other apparatus for moving heavy bodies.
MURRAY, RICHARD HICKMAN	1391	14th May 1870	Casting mould boards.
MURRAY, WILLIAM FULLARTON.	1126	18th April 1870	Apparatus for shaping plastic materials.
MURRAY, WILLIAM FULLARTON.	2724	15th Oct. 1870	Apparatus for shaping plastic materials.
MURRELL, OWEN - - -	1245	30th April 1870	Means of and apparatus for generating and heating steam in steam-boilers and other vessels, and for heating the liquid contents thereof.
MUSGRAVE, JOHN - - -	3240	10th Dec. 1870	Railway signals.
MUSHET, ROBERT - - -	602	1st March 1870	Improvements in or connected with the moulding or casting of metals, and in the apparatus to be employed therein.
MUSHET, WILLIAM - -	602	1st March 1870	Improvements in or connected with the moulding or casting of metals, and in the apparatus to be employed therein.
MUZZALL, BENJAMIN CORNFORD.	1414	19th May 1870	Improvements in the construction of school furniture also applicable to other purposes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.

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NABB, WILLIAM Mᶜ - -	911	29th March 1870	Improvements in bale-hoops and other bands, and in preparing, fitting and securing the ends thereof.
NADAL, JEAN - - - -	2198	8th Aug. 1870	Nozzles for pipes used in watering gardens and similar purposes.
NADAUD, ANET JACQUES -	305	2nd Feb. 1870	An improved automatic apparatus for producing carbonic acid for the manufacture of effervescing or gaseous liquids, and for the application of such liquids to various purposes. (*Patented by William Robert Lake.*)
NAGEL AND KŒMP - - -	649	5th March 1870	Machinery for dressing or sifting ground wheat or other grain. (*Patented by Julius Allmann.*)
NAGEL, ERNST DANIEL - -	3396	30th Dec. 1870	An improved process for coating iron, steel and other metals with electro-deposit of nickel or cobalt, or of both metals in combination.
NALL, THOMAS MILLS - -	2567	26th Sept. 1870	Certain improvements in fittings connected with the action of windows, sunshades and articles of a similar nature, a portion of the improvements being also applicable for other purposes.
NAPIER, JAMES MURDOCH -	809	18th March 1870	Apparatus for running or pouring metals and for moulding and forming the same.
NAPIER, JOHN - - -	1810	25th June 1870	An improved arrangement and construction of portable bath.
NARY, WILLIAM HENRY Mᶜ -	1988	14th July 1870	Counting registers applicable to counting the revolutions of shafts in various kinds of machinery, steam and other engine indicators for registering stroke, or travel indicators for gas or water meters, clocks, adding machines, and registering devices of different kinds, or for various purposes. (*Patented by William Edward Newton.*)
NASCH, ISIDOR - - -	413	11th Feb. 1870	Improvements in sewing-machines to produce over cast and button-hole hems by means of one single needle.
NASCH, ISIDOR - - -	2233	11th Aug. 1870	Improvements in sewing-machines for producing over-cast and button-hole hems with a single needle. (*Patented by William Robert Lake.*)
NASH, ISAAC - - - -	2768	20th Oct. 1870	Certain improvements in hay knives.
NAUGHT, JOHN Mᶜ - - -	1002	6th April 1870	Improvements in steam-boiler furnaces for economizing fuel and consuming smoke.
NAUGHT, JOHN Mᶜ - - -	1511	25th May 1870	Machinery or apparatus for washing and drying wool, yarn and other fibrous materials.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
NAUGHT, JOHN Mc - - -	2772	21st Oct. 1870	Machinery or apparatus for washing, opening and drying wool and other fibrous materials, and washing yarns.
NAUGHT, WILLIAM Mc - -	1511	25th May 1870	Machinery or apparatus for washing and drying wool, yarn and other fibrous materials.
NAUGHT, WILLIAM Mc - -	2772	21st Oct. 1870	Machinery or apparatus for washing, opening and drying wool and other fibrous materials, and washing yarns.
NAUGHT, WILLIAM Mc, junior	1002	6th April 1870	Improvements in steam-boiler furnaces for economizing fuel and consuming smoke.
NAVARRO, JOSÉ FRANCISCO DE	231	25th Jan. 1870	An improved construction of meter for measuring water and other fluids. (*Patented by Alfred Vincent Newton.*)
NAVARRO, JOSÉ FRANCISCO DE	631	3rd March 1870	Fluid meters. (*Patented by Alfred Vincent Newton.*)
NAVARRO, JOSÉ FRANCISCO DE	2338	25th Aug. 1870	Liquid meters. (*Patented by Alfred Vincent Newton.*)
NAYLOR, JAMES WHITELEGGE	2753	19th Oct. 1870	Manufacture of woven bags.
NAYSMITH, JAMES - - -	2105	26th July 1870	Constructing surveying and other instruments in which the magnetic needle is used to take bearings or courses.
NEALE, EDWARD VANSITTART	1501	24th May 1870	Mechanism for fastening French or folding windows at any desired point when partially opened. (*Patented by Bristow Hunt.*)
NEALE, EDWARD VANSITTART	2921	5th Nov. 1870	An improved apparatus by means of which systems of cypher may be readily produced.
NEALE, JAMES - - -	617	2nd March 1870	Attaching lamps to carriages.
NEALE, JAMES - - -	2405	3rd Sept. 1870	Attaching lamps to carriages.
NECKER, CARL - - -	930	30th March 1870	Sewing-machines.
NECKER, CARL - - -	2592	29th Sept. 1870	Sewing-machines.
NEEDHAM, JOSEPH - - -	1404	16th May 1870	Construction of ships and other navigable vessels.
NEEDHAM, JOSEPH - - -	2674	8th Oct. 1870	Breech-loading fire-arms.
NEEDHAM, ORWELL HARRISON	1226	28th April 1870	Apparatus for starting treadle motions, applicable to sewing-machines and other purposes. (*Patented by Alfred Vincent Newton.*)
NÉGRIER, OSCAR DE - -	1927	7th July 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdock.*)
NÈGRIER, OSCAR DE - -	3108	26th Nov. 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdock.*)
NEGRONI, JEAN LOUIS DE -	958	1st April 1870	Stoppering bottles, jars, pots and analogous recipients.
NEILE, ALEXANDER Mc - -	2882	2nd Nov. 1870	Wheels of vehicles to run on common roads.
NEILL, ARCHIBALD - -	439	15th Feb. 1870	Machinery for cutting and shaping wood.
NEILL, JAMES MAC- - -	465	17th Feb. 1870	Improvements in the manufacture of soap and in the modes and means or apparatus employed therefor.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Neilson, John - - -	696	9th March 1870	Improvements in the manufacture of hollow cast iron cooking utensils and in the means or apparatus employed therefor or connected therewith, part of which apparatus is applicable to the moulding of other articles.
Nelson, George - - -	1421	17th May 1870	Apparatus for raising, lowering and detaching ships' boats.
Nelson, William - - -	1045	9th April 1870	Manufacture of quilts, toiletings and other figured fabrics.
Neumann, Adolf - - -	1827	27th June 1870	Rails for railways. (*Patented by William Robert Lake.*)
Neville, Samuel - - -	1773	22nd June 1870	A new or improved manufacture of plates of glass.
New, William - - -	2110	27th July 1870	An economical method of heating water before using it in the service of steam-boilers of any kind.
New Haven Family Knitting Machine Company (Incorporated.)	105	12th Jan. 1870	An improved knitting machine. (*Patented by Alfred Vincent Newton.*)
Newbery, Francis - -	759	15th March 1870	Improvements in the construction of furnaces and in the method of manufacturing malleable and crucible steel and iron.
Newbrough, John Ballou -	1155	20th April 1870	A new or improved hardening composition and its employment with india-rubber, gums and oils. (*Patented by John Henry Johnson.*)
Newell, Lorenzo Dow -	157	19th Jan. 1870	Improved apparatus for diminishing the effects of the oscillation of vessels and for preventing sea-sickness. (*Patented by Edward Thomas Hughes.*)
Newell, William - - -	1979	13th July 1870	Improvements in cleaning and polishing coffee, and in apparatus employed therein, applicable also to the cleaning and polishing of grain and other produce.
Newhouse, Charles - -	957	1st April 1870	Hoists.
Newland, Peter - - -	2686	11th Oct. 1870	Construction of cupola furnaces.
Newman, Charles Henry -	1062	12th April 1870	A new and improved unfermented and unintoxicating malt liquor.
Newnham, James Ashby -	2861	31st Oct. 1870	Preservation of milk.
Newsum, George - - -	501	21st Feb. 1870	Machinery for lithographing and letter-press printing.
Newton, Alfred Vincent -	104	12th Jan. 1870	Improved apparatus for preparing fibrous substances for spinning. (*Communicated by Emile Hubner.*)
Newton, Alfred Vincent -	105	12th Jan. 1870	An improved knitting machine. (*Communicated by the The New Haven Family Knitting Machine Company (Incorporated).*)
Newton, Alfred Vincent -	106	12th Jan. 1870	Machinery for preparing fibres for spinning. (*Communicated by André Koechlin.*)
Newton, Alfred Vincent -	231	25th Jan. 1870	An improved construction of meter for measuring water and other fluids. (*Communicated by José Francisco de Navarro.*)
Newton, Alfred Vincent -	317	3rd Feb. 1870	Treating iron. (*Communicated by William Fields and Jonathan Manning Roberts.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
NEWTON, ALFRED VINCENT -	318	3rd Feb. 1870	An improvement in the process of manufacturing wrought iron or steel. (*Communicated by James Henderson.*)
NEWTON, ALFRED VINCENT -	326	4th Feb. 1870	Construction of knitting-machines. (*Communicated by Henry Von Hartz and Julius Feiss.*)
NEWTON, ALFRED VINCENT -	550	24th Feb. 1870	An improvement in the manufacture of needles. (*Communicated by Robert Jordan Roberts.*)
NEWTON, ALFRED VINCENT -	563	25th Feb. 1870	Machinery for manufacturing screws. (*Communicated by Jared Augustus Ayres.*)
NEWTON, ALFRED VINCENT -	592	28th Feb. 1870	Sewing-machines. (*Communicated by Charles Lennig.*)
NEWTON, ALFRED VINCENT -	631	3rd March 1870	Fluid meters. (*Communicated by José Francisco de Navarro.*)
NEWTON, ALFRED VINCENT -	834	21st March 1870	Manufacturing barrels and other round vessels of wood. (*Communicated by Daniel Howard Waters.*)
NEWTON, ALFRED VINCENT -	948	31st March 1870	Preparing Iceland and Irish moss for use as a food. (*Communicated by William James Rand.*)
NEWTON, ALFRED VINCENT -	960	1st April 1870	An improvement in sewing-machines. (*Communicated by Nathaniel Wheeler.*)
NEWTON, ADFRED VINCENT -	1084	13th April 1870	Improved means for working railroad switches. (*Communicated by James Davis.*)
NEWTON, ALFRED VINCENT -	1100	14th April 1870	Production of metallic alloys of manganese. (*Communicated by Elliot Savage, Joseph Mayer and Julius Waterman.*)
NEWTON, ALFRED VINCENT -	1145	19th April 1870	An improved device for operating the throttle valve or regulator in locomotive engines and for other like purposes. (*Communicated by Henry Leffert Brevoort.*)
NEWTON, ALFRED VINCENT -	1164	21st April 1870	An improved adjustable bedstead. (*Communicated by William Orr Reid.*)
NEWTON, ALFRED VINCENT -	1226	28th April 1870	Apparatus for starting treadle motions, applicable to sewing-machines and other purposes. (*Communicated by Orwell Harrison Needham and Charles Newell Brainerd.*)
NEWTON, ALFRED VINCENT -	1255	2nd May 1870	Buckles or bale ties. (*Communicated by Eleazar Judson Beard.*)
NEWTON, ALFRED VINCENT -	1287	5th May 1870	Apparatus for cleaning grain and seeds. (*Communicated by Frederic Wegmann.*)
NEWTON, ALFRED VINCENT -	1578	30th May 1870	Looms for weaving. (*Communicated by James Lyall.*)
NEWTON, ALFRED VINCENT -	1603	2nd June 1870	An improved mode of preventing the corrosion of iron exposed to water or dampness. (*Communicated by Cornelius Godfrey.*)
NEWTON, ALFRED VINCENT -	1613	3rd June 1870	Improved apparatus for cleaning knives. (*Communicated by J. A. Weston.*)
NEWTON, ALFRED VINCENT -	1708	14th June 1870	An improved mode of forming bats of wool for felting purposes. (*Communicated by John Falconer.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
NEWTON, ALFRED VINCENT -	2050	20th July 1870	Basters for sewing-machines. (*Communicated by Franklin Thomas Grimes.*)
NEWTON, ALFRED VINCENT -	2102	26th July 1870	Improvements in the manufacture of railway wheels, also in the moulds and the converting furnaces to be used in the manufacture of railway wheels. (*Communicated by John Blake Tarr.*)
NEWTON, ALFRED VINCENT -	2147	1st Aug. 1870	Cutting, boring, grinding and pulverizing stone and other hard substances. (*Communicatad by Benjamin Chew Tilghman.*)
NEWTON, ALFRED VINCENT -	2156	2nd Aug. 1870	Improved machinery for feeding sheets of paper to printing presses and other machines requiring to be similarly fed. (*Communicated by John Thomas Ashley.*)
NEWTON, ALFRED VINCENT -	2338	25th Aug. 1870	Liquid meters. (*Communicated by José Francisco de Navarro.*)
NEWTON, ALFRED VINCENT -	2419	6th Sept. 1870	An improved construction of lubricator. (*Communicated by William Gee.*)
NEWTON, ALFRED VINCENT -	2463	12th Sept. 1870	An improved mode of operating the "Gatling" gun and other guns of like character. (*Communicated by George O. Kinne.*)
NEWTON, ALFRED VINCENT -	2634	4th Oct. 1870	An improved chamber utensil. (*Communicated by Vernon Rhodes.*)
NEWTON, ALFRED VINCENT -	2642	5th Oct. 1870	Working of galvanic batteries. (*Communicated by Edwin Dodd McCracken, Henry Jotham Newton, Henry Burnham Kirkland and Joseph Roderick Husson.*)
NEWTON, ALFRED VINCENT -	2744	18th Oct. 1870	An improvement applicable to the stocks of muskets. (*Communicated by Richard Jordan Gatling.*)
NEWTON, ALFRED VINCENT -	2900	3rd Nov. 1870	Cutting, boring, grinding and pulverizing stone and other hard substances. (*Communicated by Benjamin Chew Tilghman.*)
NEWTON, ALFRED VINCENT -	2936	7th Nov. 1870	An improvement applicable to treadles used in working sewing and other machines. (*Communicated by Charles Gordon Patterson.*)
NEWTON, ALFRED VINCENT -	3049	21st Nov. 1870	Condensers for steam pumps. (*Communicated by William Craig and Henry Lefferts Brevoort.*)
NEWTON, ALFRED VINCENT -	3058	22nd Nov. 1870	Bearings for carriage axles. (*Communicated by William Henry Downs and Jethro Pencille.*)
NEWTON, ALFRED VINCENT -	3064	23rd Nov. 1870	Improved means for securing screw nuts and keys or wedges. (*Communicated by Alexander Campbell.*)
NEWTON, ALFRED VINCENT -	3065	23rd Nov. 1870	Improvements in brushes and in machinery for manufacturing the same. (*Communicated by Oscar Densmore Woodbury, Edwin Channing Woodbury, John Jay Sibley and Hiram Cornelius Covert.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
NEWTON, ALFRED VINCENT -	3151	1st Dec. 1870	Improved machinery for cutting loaf sugar. (*Communicated by George Henry Moller.*)
NEWTON, ALFRED VINCENT -	3215	7th Dec. 1870	An improved construction of cartridge box. (*Communicated by Henry D. Cooke, junior.*)
NEWTON, FREDERICK JAMES -	2056	21st July 1870	Jacquard apparatus.
NEWTON, HENRY EDWARD -	103	12th Jan. 1870	Billiard table cushions. (*Communicated by Matthew Delaney.*)
NEWTON, HENRY EDWARD -	327	4th Feb. 1870	Improved machinery for cutting, dressing or working stone. (*Communicated by Carl Friedrich Schlickeysen.*)
NEWTON, HENRY EDWARD -	808	18th March 1870	Lime kilns. (*Communicated by Pierre Jacques Gerbault-Guichard.*)
NEWTON, HENRY EDWARD -	1114	16th April 1870	Improved apparatus to be employed in the performance of gymnastic exercises. (*Communicated by William Hanlon.*)
NEWTON, HENRY EDWARD -	1737	17th June 1870	Improvements applicable to looms for weaving. (*Communicated by Louis Raoul Barin.*)
NEWTON, HENRY JOTHAM -	2083	23rd July 1870	Apparatus for the manufacture of gas. (*Patented by William Edward Newton.*)
NEWTON, HENRY JOTHAM -	2642	5th Oct. 1870	Working of galvanic batteries. (*Patented by Alfred Vincent Newton.*)
NEWTON, ISAAC EDWIN - -	159	19th Jan. 1870	Looms for weaving. (*Patented by Edward Thomas Hughes.*)
NEWTON, JOHN BIGLEY - -	1611	3rd June 1870	Improved means for preventing fraudulent alterations in bankers' cheques and other monetary instruments. (*Patented by William Robert Lake.*)
NEWTON, ROBERT - - -	900	28th March 1870	Improvements in or applicable to machinery for spinning and twisting fibrous substances.
NEWTON, SAMUEL - - -	2567	26th Sept. 1870	Certain improvements in fittings connected with the action of windows, sunshades and articles of a similar nature, a portion of the improvements being also applicable for other purposes.
NEWTON, THOMAS - - -	703	10th March 1870	Fire-arms.
NEWTON, WILLIAM EDWARD -	17	3rd Jan. 1870	Improvements in electro-magnets and the application of the same for obtaining motive-power. (*Communicated by Henry Monroe Paine and Mahlon Smith Frost.*)
NEWTON, WILLIAM EDWARD -	98	12th Jan. 1870	Manufacture of sugar. (*Communicated by Emile Rousseau.*)
NEWTON, WILLIAM EDWARD -	190	21st Jan. 1870	Treatment or preparation of various natural substances so as to render them applicable for use in journal boxes and other parts of machinery, or other articles whose surfaces are intended to be subjected to friction. (*Communicated by Stuart Gwynn.*)
NEWTON, WILLIAM EDWARD -	236	26th Jan. 1870	Preparing surfaces for skating in all seasons. (*Communicated by Matthew Julius Bujac.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
NEWTON, WILLIAM EDWARD -	416	11th Feb. 1870	Improved machinery for bolting or sifting flour or meal and separating the heavier from the lighter particles.. (*Communicated by Louis Theodore Hippolyte Loron.*)
NEWTON, WILLIAM EDWARD -	523	23rd Feb. 1870	Springs for carriages and other purposes. (*Communicated by Andrew Jackson Dexter.*)
NEWTON, WILLIAM EDWARD -	549	24th Feb. 1870	Steam-boilers and engines. (*Communicated by Francis Brown Blanchard.*)
NEWTON, WILLIAM EDWARD -	551	24th Feb. 1870	Windmills. (*Communicated by Edward Savoral.*)
NEWTON, WILLIAM EDWARD -	673	7th March 1870	Improved apparatus for injecting and reducing liquids to a state of spray or minute subdivision. (*Communicated by Alcide Sanial du Fay.*)
NEWTON, WILLIAM EDWARD -	691	8th March 1870	Improved apparatus for generating steam or elastic vapours for actuating motive-power engines. (*Communicated by Jean Baptiste Givord.*)
NEWTON, WILLIAM EDWARD -	769	15th March 1870	Kilns or apparatus for drying malt. (*Communicated by Robert Overbeck.*)
NEWTON, WILLIAM EDWARD -	770	15th March 1870	Gun carriages and their slides. (*Communicated by John Wall Wilson.*)
NEWTON, WILLIAM EDWARD -	907	28th March 1870	Pumps or apparatus for raising water and sand, mud or other disintegrated substances. (*Communicated by Barton Howard Jenks.*)
NEWTON, WILLIAM EDWARD -	973	2nd April 1870	Improved machinery for making horse-shoe and other nails. (*Communicated by Sebastien Schlesinger.*)
NEWTON, WILLIAM EDWARD -	1047	9th April 1870	Improved machinery applicable for inland navigation. (*Communicated by Murray Jackson.*)
NEWTON, WILLIAM EDWARD -	1351	11th May 1870	Improved machinery for pointing and finishing nails. (*Communicated by Sebastien Schlesinger.*)
NEWTON, WILLIAM EDWARD -	1357	12th May 1870	Construction of steam valves or cocks. (*Communicated by George Snowden Redfield, Edward Abraham Rock and James Seel Gill.*)
NEWTON, WILLIAM EDWARD -	1375	13th May 1870	Improvements in the construction of vessels and in the means of propelling the same. (*Communicated by Jean Lucien Arman.*)
NEWTON, WILLIAM EDWARD -	1429	18th May 1870	An improved automatic barrel-filling apparatus. (*Communicated by Seth Clinton Catlin.*)
NEWTON, WILLIAM EDWARD -	1487	23rd May 1870	Improved machinery for grinding hand saws. (*Communicated by William Finley Semple.*)
NEWTON, WILLIAM EDWARD -	1500	24th May 1870	Improvements in earth-closets, applicable also in part to waterclosets and privies. (*Communicated by Charles Austin Wakefield.*)
NEWTON WILLIAM EDWARD -	1532	26th May 1870	Looms for weaving. (*Communicated by Charles Piat.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
NEWTON, WILLIAM EDWARD -	1585	31st May 1870	An improved ink or mucilage stand. (*Communicated by Doctor Franklin Thomas Grimes.*)
NEWTON, WILLIAM EDWARD -	1604	2nd June 1870	Furniture springs for seats, mattresses and other similar articles. (*Communicated by John Perlee Ryan.*)
NEWTON, WILLIAM EDWARD -	1658	8th June 1870	Cartridge cases for breech-loading fire-arms. (*Communicated by Nathaniel Gilbert Whitmore and Alfred Augustus Reed, junior.*)
NEWTON, WILLIAM EDWARD -	1675	9th June 1870	Steam-boilers. (*Communicated by John Benjamin Root.*)
NEWTON, WILLIAM EDWARD -	1726	16th June 1870	Paint brushes. (*Communicated by James Joseph Lowerre.*)
NEWTON, WILLIAM EDWARD -	1727	16th June 1870	Machinery for binding, wrapping and forming cigars. (*Communicated by Socrates Scholfield.*)
NEWTON, WILLIAM EDWARD -	1783	22nd June 1870	An improved mode or process for obtaining glycerine from soap-makers' spent lyes. (*Communicated by Benjamin Talbot Babbitt.*)
NEWTON, WILLIAM EDWARD -	1821	27th June 1870	Production of glucose, syrup and sugar. (*Communicated by Jean Jacques Grosheinz.*)
NEWTON, WILLIAM EDWARD -	1890	4th July 1870	Improved apparatus for the production of ice. (*Communicated by Silvester Bennett.*)
NEWTON, WILLIAM EDWARD -	1988	14th July 1870	Counting registers applicable to counting the revolutions of shafts in various kinds of machinery, steam and other engine indicators for registering stroke, or travel indicators for gas or water meters, clocks, adding machines, and registering devices of different kinds, or for various purposes. (*Communicated by William Henry Mc Nary.*)
NEWTON, WILLIAM EDWARD -	2051	20th July 1870	Toilet and other mirrors. (*Communicated by George Hostell Chinnock and Edward Payson Williams.*)
NEWTON, WILLIAM EDWARD -	2061	21st July 1870	Lamps. (*Communicated by Franklin Thomas Grimes.*)
NEWTON, WILLIAM EDWARD -	2073	22nd July 1870	Improved machinery or apparatus for tawing or dressing skins. (*Communicated by Joseph Berendorf.*)
NEWTON, WILLIAM EDWARD -	2083	23rd July 1870	Apparatus for the manufacture of gas. (*Communicated by Edwin Dodd Mc Cracken, Henry Jotham Newton, Henry Burnham Kirkland and Joseph Roderick Husson.*)
NEWTON, WILLIAM EDWARD -	2271	16th Aug. 1870	Improved boat-detaching apparatus. (*Communicated by Charles Henry Nye and Sidney Sweet.*)
NEWTON, WILLIAM EDWARD -	2330	24th Aug. 1870	Printing machinery. (*Communicated by Richard March Hoe.*)
NEWTON, WILLIAM EDWARD -	2339	25th Aug. 1870	Electric clockwork. (*Communicated by Edouard Bonhomme and Charles Ferdinand Mildé.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
NEWTON, WILLIAM EDWARD -	2368	29th Aug. 1870	Improvements in lithographic printing machines, and in apparatus for grinding or preparing the surface of the stones used for lithographic purposes. (*Communicated by Richard March Hoe.*)
NEWTON, WILLIAM EDWARD -	2414	5th Sept. 1870	Steam-boilers. (*Communicated by John Benjamin Root.*)
NEWTON, WILLIAM EDWARD -	2415	5th Sept. 1870	Improved machinery for cutting loaf sugar into cubes. (*Communicated by George Henry Mollers.*)
NEWTON, WILLIAM EDWARD -	2477	14th Sept. 1870	An improved fastening for garments and other articles or purposes. (*Communicated by Joseph Edward Dallon.*)
NEWTON, WILLIAM EDWARD -	2492	15th Sept. 1870	Improvements in the manufacture of "bunches" or "fillers" for cigars, and in the preparation of tobacco therefor. (*Communicated by Adolph Pearl.*)
NEWTON, WILLIAM EDWARD -	2509	17th Sept. 1870	Wood paving with or without rails. (*Communicated by Samuel Norris.*)
NEWTON, WILLIAM EDWARD -	2668	8th Oct. 1870	A continuous process for treating the ores of metals, and the apparatus and mechanical appliances used therein. (*Communicated by Robert Spencer.*)
NEWTON, WILLIAM EDWARD -	2743	18th Oct. 1870	Improvements in saddle cloths and horse clothing and blankets, and in ponchos or other coverings for man and beast. (*Communicated by Robert Spencer.*)
NEWTON, WILLIAM EDWARD -	2782	21st Oct. 1870	Improvements in the manufacture of salt and in the apparatus employed therein. (*Communicated by J. R. Buchanan.*)
NEWTON, WILLIAM EDWARD -	2863	31st Oct. 1870	An improved silicious compound applicable for the manufacture of pipes, tiles, bricks and other articles for buildings, also for paths, floors, roofs and other analogous purposes. (*Communicated by William Augustus Battersby, Timothy Reed Crawford and Robert Brown.*)
NEWTON, WILLIAM EDWARD -	2876	1st Nov. 1870	Improvements applicable to safes, vaults and other structures for containing valuable property, and in alarm apparatus or telegraphs connected therewith. (*Communicated by Edwin Holmes and Henry Clay Roome.*)
NEWTON, WILLIAM EDWARD -	2899	3rd Nov. 1870	Improved machinery for pointing nails. (*Communicated by Lawrence Barnes.*)
NEWTON, WILLIAM EDWARD -	2935	7th Nov. 1870	An improved metallic composition for roofing, linings, pipes and other purposes. (*Communicated by David Johnson Millard.*)
NEWTON, WILLIAM EDWARD -	2943	8th Nov. 1870	An improved process for extracting the useful substance of hops and for manufacturing a pure and concentrated extract of hops. (*Communicated by Charles Augustus Seely.*)
NEWTON, WILLIAM EDWARD -	3404	31st Dec. 1870	Improvements in the manufacture of felted fabrics and in the machinery or apparatus employed therein. (*Communicated by Robert Spencer.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Newton, William Harrison	3086	24th Nov. 1870	Earth-closets. (*Patented by John Henry Johnson.*)
Nicholls, Henry Martyn -	1993	14th July 1870	Printing machines and apparatus connected therewith.
Nichols, William - -	1217	27th April 1870	Improvements in steam-boilers and the furnaces thereof.
Nicholson, Joseph - -	1346	11th May 1870	Fastenings for windows, doors and other similar purposes.
Nicholson, Matthew Henry	495	19th Feb. 1870	An improvement in applying metal handles to table knives and forks.
Nicholson, William - -	738	12th March 1870	An improved clog for roughing horses.
Nicholson, William Newzam.	3053	22nd Nov. 1870	Governors for steam or other motive-power engines.
Nicol, George Doig - -	2926	5th Nov. 1870	Manufacture of sail cloth and such like fabrics.
Nicole, Adolphe - - -	905	28th March 1870	Lever escapements for watches and other time-keepers.
Nicoll, Donald - - -	1950	9th July 1870	An improved waterproof fabric applicable for rugs, carpets, tents and outer coverings or wrappers.
Nicolle, Eugene Dominique	3210	6th Dec. 1870	Cooling or freezing machines. (*Patented by William Mort.*)
Niel, Andrew Mc- - -	2418	6th Sept. 1870	Manufacture of salts of ammonia from ammoniacal gas liquor.
Niel, Andrew Mc- - -	2664	7th Oct. 1870	Process of revivifying the materials used for the purification of gas.
Nilson, Olof- - - -	2574	28th Sept. 1870	Breech-loading fire-arms.
Nilson, Olof- - - -	2576	28th Sept. 1870	An improved mode of and apparatus for supplying paper to printing presses.
Nisser, Pedro - - -	119	14th Jan. 1870	A new simplified explosive substitute for gunpowder.
Nixon, Joseph - - -	1309	7th May 1870	Improved machinery for piercing and drilling tangs and scales for table knives and forks, table and butchers' steels and butchers' knives.
Noble, Andrew - - -	2369	29th Aug. 1870	Means and apparatus employed for exploding submarine mines or torpedoes.
Noble, Andrew - - -	2424	7th Sept. 1870	Fuzes.
Noble, Samuel - - -	546	24th Feb. 1870	Machinery or apparatus for reeling slivers of wool direct from the gill-box.
Nolden, Melchior - -	1139	19th April 1870	An apparatus for the threefold purpose of curing or drying mealy and grainy stuffs, heating, cooling and mixing fluid substances, and condensing gaseous ones.
Norcombe, Edmund Squire -	2514	19th Sept. 1870	Improvements applicable to letter-press printing-machines, and in the production of stereotypes to be used therewith.
Norfolk, John Robinson -	401	10th Feb. 1870	Looms for weaving. (*Patented by William Robert Lake.*)
Norminton, Edwin Napoleon.	1891	4th July 1870	Construction of carriages.
Norris, Richard Stuart -	597	1st March 1870	An improved method of getting coal, and for the machinery or apparatus connected therewith.
Norris, Samuel - - -	817	19th March 1870	Wood paving with or without rails.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Norris, Samuel - - -	2509	17th Sept. 1870	Wood paving with or without rails. (*Patented by William Edward Newton.*)
Norris, Stephen - - -	1809	25th June 1870	Improvements in machinery or apparatus for mixing and kneading dough and other ingredients, and for working the same into bread, biscuits and other pastry, and also applicable to other purposes.
North, Edward Parsons -	1267	3rd May 1870	Supports for supporting and adjusting umbrellas, parasols and other like articles.
Norton, James Lee - -	489	18th Feb. 1870	Embroidering machinery. (*Partly communicated by Johann Ulrich Billwiller.*)
Norton, James Lee - -	686	8th March 1870	Looms for weaving.
Norton, James Lee - -	1120	16th April 1870	Apparatus for dressing and furrowing mill-stones.
Norton, Samuel - - -	1849	29th June 1870	An improved and combined hydraulic filter and double valve tap.
Norton, Samuel - - -	2034	19th July 1870	Valve taps.
Noton, William - -	174	20th Jan. 1870	Certain improvements in carding-engines.
Nourisse, Pierre Gustave -	69	8th Jan. 1870	Improvements in spring seats, chairs and mattresses, such improvements being also applicable to other purposes. (*Patented by Alexander Melville Clark.*)
Novare, Robert Alexander	1899	5th July 1870	Morse telegraph printing apparatus.
Novare, Robert Alexander	2845	28th Oct. 1870	Telegraphic printing apparatus.
Noyes, George Enoch - -	885	25th March 1870	Improvements in the valves of steam-engines and in the mechanism for operating the same. (*Patented by William Robert Lake.*)
Nunn, William - - -	1253	2nd May 1870	Ships' and other signal lamps.
Nunn, William - - -	3078	24th Nov. 1870	An improved means of advertising, which improvement is also applicable in communicating information for other purposes.
Nunn, William - - -	3079	24th Nov. 1870	Traps to drains and other places.
Nuttall, Richard - -	24	4th Jan. 1870	Certain improvements in the manufacture of counterpanes, quilts, quiltings, toilet-ings and other similar fabrics.
Nuttall, Thomas - - -	24	4th Jan. 1870	Certain improvements in the manufacture of counterpanes, quilts, quiltings, toilet-ings and other similar fabrics.
Nye, Charles Henry - -	2271	16th Aug. 1870	Improved boat-detaching apparatus. (*Patented by William Edward Newton.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.

O.

O'Brien, Edward Arthur -	2273	17th Aug. 1870	An improved fastener or "tie" for metallic bands employed in securing bales or packages of cotton or other matters packed under pressure. (*Communicated by Edward Pugh Jones.*)
O'Farrell, Matthew Joseph	2895	3rd Nov. 1870	Improvements in the manufacture of roll tobacco, also applicable to coils of tobacco.
Oatey, William Arundell -	1161	21st April 1870	Construction of reaping and mowing machines.
Ocooneff, Constantine [Michael.	3001	16th Nov. 1870	An improved method of and apparatus for compressing metals in a liquid condition. (*Patented by George Haseltine.*)
Oddy, James - - - -	1617	4th June 1870	Machinery for combing wool, cotton, flax and other fibrous substances.
Oddy, Samuel - - -	3338	21st Dec. 1870	Certain improvements in self-acting mules.
Ody, Andrew - - -	962	2nd April 1870	Improvements in weighing-machines, and in combining machinery for hoisting and weighing goods.
Ogden, Amos - - -	410	11th Feb. 1870	Construction of clearers applicable to machinery used in the preparation of cotton and other fibrous materials.
Ogden, Joseph - - -	2962	10th Nov. 1870	Looms for weaving.
Oldroyd, John - - -	3223	8th Dec. 1870	Improved means or machinery for indigo blue dyeing.
Oldroyd, Mark, junior - -	3223	8th Dec. 1870	Improved means or machinery for indigo blue dyeing.
Oliver, George - - -	497	19th Feb. 1870	Machinery or apparatus for breaking or reducing stones, and for crushing quarts or schist, bones, emery, ores and all mineral and other substances.
Oliver, James Lloyd - -	2486	15th Sept. 1870	Microscopic apparatus. (*Patented by George Haseltine.*)
Olmstead, Joseph - -	3266	13th Dec. 1870	An improved electrical brake for railway carriages. (*Patented by William Robert Lake.*)
Olney, Thomas Charles -	15	3rd Jan. 1870	An improved gas stove, part of which is also applicable to blow pipes and forges.
Onion, Thomas - - -	2472	14th Sept. 1870	Apparatus for measuring the flow of water or other liquids.
Onions, John - - -	2702	13th Oct. 1870	Self-acting basting jacks.
Oram, Samuel - - -	2904	3rd Nov. 1870	Machinery and apparatus for tilling land by steam and for other purposes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Ord, William - - -	2984	14th Nov. 1870	Improvements in rivets and in rivetting metal plates together.
Ormerod, John - - -	1265	3rd May 1870	Looms for weaving.
Ormrod, Oliver - - -	702	10th March 1870	Improved arrangements or combinations of machinery for finishing threads or yarns of cotton or other fibrous materials.
Ormson, Henry - - -	1382	14th May 1870	Warming and ventilating horticultural buildings and other structures.
Ormston, Henry - - -	2245	12th Aug. 1870	An improved machine for reducing "isinglass" or brewers' finings.
Orr, William - - -	264	28th Jan. 1870	Ornamenting Scotch caps or bonnets.
Ortner, Francis Joseph -	1213	27th April 1870	Arrangement of pipes for drawing liquid from casks and other vessels.
Osborn, John Hadley - -	758	15th March 1870	An improvement in sewing-machines. (*Patented by John Campbell McLagan.*)
Osborn, Samuel - - -	502	21st Feb. 1870	Improved apparatus for heating knives for reaping and mowing machines, in order to the partial hardening of such knives.
Osborne, William Joseph -	2848	29th Oct. 1870	Travelling wrappers.
Osselin, Alfred François -	2135	30th July 1870	A new or improved application of atmospheric power to fixed locomotives and ascensional machines. (*Patented by William Edward Gedge.*)
Osterkamp, Hermann - -	1466	20th May 1870	An improved rock drilling machine.
Oswald, William Rudd -	2380	31st Aug. 1870	Steam-engines.
Oswald, William Rudd -	2643	5th Oct. 1870	Apparatus for ventilating stoke holes and engine rooms of steam ships.
Otto, Edward - - -	2144	1st Aug. 1870	Improvements in the construction of railway buffer and draw springs, and in bearing springs for railway carriages, and in the use of the same for carriages for common roads, such springs being adapted to other purposes.
Oudit, Stanislas Delisse -	1355	12th May 1870	An improved tool for cutting net lace and other like fabrics.
Oury, Jules - - - -	1340	11th May 1870	An improved water meter, parts of which are applicable for other purposes. (*Patented by Hector Auguste Dufrené.*)
Oury, Jules - - - -	2965	11th Nov. 1870	An improved water meter, parts of which are applicable for other purposes. (*Patented by William Armand Gilbee.*)
Outram, James - - -	1761	21st June 1870	Rotary engines.
Ovenden, Philip - - -	3364	24th Dec. 1870	Improvements in heating, drying and evaporating, and in apparatus to be used therein.
Ovenden, Philip - - -	3399	30th Dec. 1870	Improvements in deodorizing and purifying sewage, urine and refuse matters and liquids, and in making manure therefrom, and in apparatus for those purposes.
Overbeck, Robert - -	769	15th March 1870	Kilns or apparatus for drying malt. (*Patented by William Edward Newton.*)
Overend, John Alfred [Thomas.	2527	20th Sept. 1870	An improved type casting, breaking, rubbing and setting machine.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
OVERMAN, THOMAS WILLIAM	2632	4th Oct. 1870	Apparatus for administering medecine to horses and other animals.
OWEN, JOSHUA THOMAS - -	1512	25th May 1870	Washing-machines. (*Patented by William Robert Lake.*)
OWEN, WILLIAM - - -	2031	19th July 1870	Railway and other wheels.
OXLAND, ROBERT - - -	1447	19th May 1870	Manufacture of sulphuric acid.

P.

PADWICK, WILLIAM FREDERICK	156	19th Jan. 1870	An improvement in or addition to ordinary fire-grates.
PAGE, JOHN - - - -	2977	12th Nov. 1870	Improvements in making moulds for casting and in apparatus therefor.
PAGE, THOMAS - - -	1407	16th May 1870	Apparatus to be used in subaqueous operations.
PAGES, EMILE VICTOR - -	52	6th Jan. 1870	Means for closing or fastening neckties, stocks, cuffs and other objects. (*Patented by Peter Jensen.*)
PAGET, ARTHUR - - -	273	31st Jan. 1870	Improvements in hooks and the means for securing the same.
PAGET, FREDERICK ARTHUR -	2141	1st Aug. 1870	Production of filamentous matter suitable for spinning from sundry plants. (*Communicated by August Deininger.*)
PAGET, FREDERICK ARTHUR -	2310	22nd Aug. 1870	Production of pulp suitable for the manufacture of paper from wood, straw, grass and other vegetable matter. (*Communicated by August Deininger.*)
PAIN, JAMES - - - -	2270	16th Aug. 1870	Velocipedes.
PAINE, HENRY MONROE -	17	3rd Jan. 1870	Improvements in electro-magnets and the application of the same for obtaining motive-power. (*Patented by William Edward Newton.*)
PALEY, GEORGE - - -	720	11th March 1870	Improved methods of putting twist in sliver or yarn from flyer to rollers of frames for cotton, woollen or other fibrous substances.
PALLISER, WILLIAM - -	3256	13th Dec. 1870	Magazines, reservoirs or receptacles for storing gunpowder, cartridges and other explosive materials.
PALMER, JOHN - - -	1206	26th April 1870	Gas cooking stoves.
PALMER, WILLIAM, the younger	19	3rd Jan. 1870	Improvements in lighting railway and other carriages, and in lamps to be used for this purpose.
PANNETRAT, FRANÇOIS MARTIN.	1023	7th April 1870	A new and improved astronomical instrument by means of which is obtained the true time at mid-day or any other moment of the day, the latitude, the longitude and the meridian line. (*Patented by Henri Adrien Bonneville.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PAPE, WILLIAM ROCHESTER -	752	15th March 1870	Fire-arms with central fire-action.
PARKER, CHARLES - - -	796	17th March 1870	Lithographic, zincographic and other printing presses. (*Patented by Edward Thomas Hughes.*)
PARKER, CHARLES - - -	2363	29th Aug. 1870	An improved process for forming vacuum in freezing apparatus. (*Patented by Edward Thomas Hughes.*)
PARKER, EDWARD LAWLEY -	1194	25th April 1870	Buckles or fastenings for braces, belts, bands and other articles.
PARKER, EDWARD LAWLEY -	2468	13th Sept. 1870	Fastenings for braces, belts, bands and other articles.
PARKER, JOHN - - -	1000	5th April 1870	Dry earth-closets.
PARKER, JOHN FREDERICK -	2028	19th July 1870	Manufacture and melting of iron and steel.
PARKER, THOMAS - - -	40	5th Jan. 1870	An improved apparatus or means to be employed for the purpose of heating churches, chapels and other buildings.
PARKES, ALEXANDER - -	1053	9th April 1870	Manufacture of steel.
PARKES, ALEXANDER - -	2062	21st July 1870	Manufacture of steel.
PARKES, ALEXANDER - -	2677	10th Oct. 1870	Manufacture of manganese and alloys of manganese.
PARKES, FRANK - - -	2767	20th Oct. 1870	Certain improvements in plough-shares.
PARKES, JOHN JOSEPH - -	3162	2nd Dec. 1870	Gas stoves or apparatus for cooking and heating purposes.
PARKINS, WILLIAM - -	3227	8th Dec. 1870	A wrapper for postal and other purposes.
PARKINSON, CHARLES BRAHAM.	956	1st April 1870	Method of working check straps in looms for weaving.
PARKINSON, JOHN - - -	595	1st March 1870	Apparatus for giving an alarm when the water in steam-boilers is below the proper level.
PARKMAN, EDWARD - -	3117	28th Nov. 1870	An automatic ventilator, alarm and pump for vessels. (*Patented by Benjamin Joseph Barnard Mills.*)
PARLOUR, JOSEPH THOMAS -	1680	10th June 1870	Improvements in machinery and in the means employed in connection therewith for raising sunken ships and other submerged bodies, and for conducting other submarine operations.
PARNELL, EDWARD ANDREW -	445	15th Feb. 1870	Adapting iron vessels for receiving and conveying sulphuric and other acid liquids.
PARNELL, EDWARD ANDREW -	2399	2nd Sept. 1870	Manufacture of soda.
PARNELL, WILSON - - -	2646	6th Oct. 1870	Washing-machines.
PARRY, GEORGE JOHN - -	2037	20th July 1870	Mechanism arranged in combination with the locks of boxes, dressing and other cases, desks, drawers, cupboards or other similar receptacles, to facilitate the opening thereof.
PARSONS, GEORGE - - -	935	31st March 1870	Feeding apparatus for carding-engines.
PARSONS, PERCEVAL MOSES -	2337	25th Aug. 1870	Artificial fuel.
PARTRIDGE, EBENEZER - -	1747	17th June 1870	Improvements in axle-boxes and in means of securing the same upon the axle.
PASSEDOIT, JEAN BAPTISTE -	919	29th March 1870	Manufacture of peat charcoal.
PASSEDOIT, JEAN BAPTISTE -	1743	17th June 1870	Manufacture of peat charcoal. (*Patented by Louis Antoine Ritterbandt.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PATERSON, ROBERT - -	2489	15th Sept. 1870	Improved appliances for extinguishing fires.
PATON, JAMES - - -	196	22nd Jan. 1870	Apparatus for generating carbonic acid gas for application to the extinction and prevention of fire.
PATON, THOMAS - - -	1251	2nd May 1870	Combined high and low pressure steam and atmospheric engines.
PATON, WILLIAM - - -	2760	20th Oct. 1870	New or improved constructions of elastic and flexible metallic or composite packings for the stuffing boxes and other working and jointing parts of steam-engines and machinery.
PATTEN, GEORGE M. - -	1171	22nd April 1870	Machinery for knitting stockings or various other articles. (*Patented by James Rand Clark.*)
PATTERSON, CHARLES GORDON	2936	7th Nov. 1870	An improvement applicable to treadles used in working sewing and other machines. (*Patented by Alfred Vincent Newton.*)
PATTERSON, HENRY - -	2496	16th Sept. 1870	Improvements in steam-boilers or generators and in the method of generating steam. (*Communicated by Robert Patterson.*)
PATTERSON, ROBERT - -	2496	16th Sept. 1870	Improvements in steam-boilers or generators and in the method of generating steam. (*Patented by Henry Patterson.*)
PATTISON, FREDERICK - -	757	15th March 1870	Improvements in or connected with the manufacture of "blackening" for foundry purposes, and in the means or apparatus employed therfor.
PATTISON, FREDERICK - -	1090	13th April 1870	A new or improved metal founders' "blacking."
PATTISON, GOURNEY CROW -	906	28th March 1870	Anchors. (*Patented by William Robert Lake.*)
PAULDING, JOHN - - -	2166	3rd Aug. 1870	An improved sewing-machine. (*Patented by William Robert Lake.*)
PAVY, EMILE - - - -	1946	9th July 1870	Improvements in bins and granaries or holders for corn and grain, and in bricks for building the same and other structures. (*Patented by Henry Eugene Pavy.*)
PAVY, HENRY EUGENE - -	1946	9th July 1870	Improvements in bins and granaries or holders for corn and grain, and in bricks for building the same and other structures. (*Communicated by Emile Pavy.*)
PAXMAN, JAMES NOAH - -	2035	19th July 1870	Steam-boilers.
PAYNE, DAVID - - -	2421	6th Sept. 1870	Printing machinery.
PAYNE, WILLIAM - - -	741	14th March 1870	Improvements applicable to steam-boiler, smelting, reverberating and other furnaces.
PEACOCK, EDWARD GEORGE -	1373	13th May 1870	Apparatus adapted to be used for refrigerating and also for heating purposes.
PEACOCK, RALPH - - -	377	9th Feb. 1870	An improved crushing and disintegrating machine or mill.
PEARCE, JOHN CHARLES -	886	25th March 1870	Apparatus for facilitating the sorting of wool.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PEARD, THOMAS - - -	141	17th Jan. 1870	Apparatus for adjusting and securing the knobs or handles of locks, latches and other fastenings.
PEARL, ADOLPH - - -	2492	15th Sept. 1870	Improvements in the manufacture of "bunches" or "fillers" for cigars, and in the preparation of tobacco therefor. (*Patented by William Edward Newton.*)
PEARN, FRANK KELSEY - -	2972	12th Nov. 1870	Machinery for raising and forcing fluids.
PEARN, RICHARD POTTER -	2972	12th Nov. 1870	Machinery for raising and forcing fluids.
PÉCOUL, HENRY GUSTAVE [ADRIEN.	2908	3rd Nov. 1870	An improved means of advertising. (*Patented by Alexander Melville Clark.*)
PEEBLES, JOHN - - -	977	2nd April 1870	Equilibrium slide valves.
PEEL, JOHN - - - -	3094	25th Nov. 1870	Looms for weaving.
PEIGNÉ, Zoé Widow Kern -	464	17th Feb. 1870	An improved horizontal pump.
PELLETIER, EDOUARD LE -	1794	24th June 1870	Construction of revolving coilers applicable to looms for spinning hemp, flax and other textile matters.
PELOUZE, EUGENE - - -	3253	12th Dec. 1870	Preservation of meat and other animal matters. (*Patented by John Henry Johnson.*)
PENCILLE, JETHRO - - -	3058	22nd Nov. 1870	Bearings for carriage axles. (*Patented by Alfred Vincent Newton.*)
PENDLETON, HENRY GARNER	348	7th Feb. 1870	An improved chain suspender and fastener, which invention is also applicable for attaching brooches, studs, clasps, links, buttons and articles of jewellery or other ornaments, to the dress of the user.
PENDRED, VAUGHAN - -	3219	8th Dec. 1870	Construction of road wheels for road steamers and traction engines.
PENLEY, WILLIAM GEORGE [ROBINSON.	233	26th Jan. 1870	Pipes for smoking tobacco.
PENN, JOHN, junior - -	3081	24th Nov. 1870	Improvements in the manufacture of curved metal pipes and in apparatus employed therein.
PENN, THOMAS - - -	2229	11th Aug. 1870	An improved method of regulating the opening and closing of watercloset and other cocks by hydraulic pressure.
PENNELL, SIR CHARLES HENRY	1951	9th July 1870	Skates.
PENNEY, MULGRAVE DANIEL -	58	7th Jan. 1870	Treating shoddy and other animal waste to obtain ammonia and salts of ammonia therefrom.
PENNINGTON, WILLIAM - -	732	12th March 1870	Apparatus for plaiting and sewing linen and other fabrics, for shirt fronts or other similar purposes.
PENNY, GEORGE STOTHERT, [M.R.C.S.	1318	9th May 1870	Improvements applicable to cabinet stereoscopes and other similar apparatus.
PEPLE, ANTHONY - - -	1089	13th April 1870	An improved mode of utilizing cotton waste and other refuse fibrous materials, for cleaning machinery. (*Patented by William Robert Lake.*)
PEPPER, JOHN - - -	1324	9th May 1870	Machinery for knitting looped fabrics.
PERCY, WILLIAM CARTER [STAFFORD.	2389	2nd Sept. 1870	Improvements in the preparation of clay, and in the machinery or apparatus for shaping and moulding vegetable and other plastic substances, also for making bricks, tiles, crucibles and other similar articles.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PERIER, ALEXANDRE AUGUSTE	28	4th Jan. 1870	Processes for the purification of saccharine syrups. (*Patented by John Garrett Tongue.*)
PERKINS, HERBERT - -	921	30th March 1870	Improved apparatus for steering ships. (*Patented by Thomas Allen Hickley and William Utting.*)
PERKINS, HOWARD - - -	2572	27th Sept. 1870	Machinery for twisting and laying cords and rope. (*Patented by John Russell Taber.*)
PERKINS, JOHN WM. - -	898	28th March 1870	Manufacture of fulminating compounds.
PERKINS, LOFTUS - - -	1508	24th May 1870	Connections for fire-engine hoses and other pipes. (*Partly communicated by Montgomery Gibs.*)
PERKINS, LOFTUS - - -	2436	8th Sept. 1870	Locking gear of the fore carriage of wheeled vehicles.
PERKINS, STANHOPE - -	801	18th March 1870	Locomotive and other steam-boilers having fire-boxes.
PERKINS, THOMAS - - -	1367	13th May 1870	Apparatus for ploughing or cultivating land.
PERKINS, WILLIAM - -	63	7th Jan. 1870	Improvements in the preparation of combustible liquids for illuminating purposes, and in lamps for burning such or other combustible liquids.
PERKINS, WILLIAM - -	3246	10th Dec. 1870	Improvements in holders for continuous matches, and in binding materials for making continuous and other matches.
PERMAN, CHARLES HAYWARD	266	28th Jan. 1870	Improvements in the manufacture of hinges and in apparatus used therein.
PERMAN, CHARLES HAYWARD	1711	15th June 1870	Coal vases.
PEROWNE, BENJAMIN - -	1478	21st May 1870	Machinery for cutting turnips and other roots.
PERRETT, JOSEPH, the younger	3096	25th Nov. 1870	Construction of bow or projecting windows.
PERRY, FRANCIS - - -	1350	11th May 1870	Preservation of meats.
PERRY, JOHN - - - -	3388	29th Dec. 1870	Viaducts adapted both for pedestrian traffic and for the supply of fresh air to buildings in crowded localities. (*Patented by George Tomlinson Bousfield.*)
PERTUISET, EUGENE - -	2066	21st July 1870	Explosive projectiles and fuses. (*Patented by John Henry Johnson.*)
PETERS, CHARLES ROLLA -	2126	29th July 1870	Improved means for preventing the fraudulent use of bonds, receipts, cheques, tickets and other like articles.
PETERSSON, AXEL - - -	1246	30th April 1870	Counting machines. (*Patented by Cathrinus Nicolay Arbo Collett.*)
PETIN, HIPPOLYTE ULYSSE -	710	10th March 1870	Improvements in the manufacture of wheel tires, hoops, bands and such like articles, and in the machinery or apparatus employed therein. (*Patented by John Henry Johnson.*)
PETITPIERRE, HENRY - -	1843	28th June 1870	Steam generators. (*Patented by Alexander Melville Clark.*)
PETITPIERRE, JEAN BAPTISTE [HONORÉ.	1365	13th May 1870	An improved steam machine for agricultural work and land transport of every kind. (*Patented by William Edward Gedge.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PETITPIERRE, JEAN BAPTISTE [HONORÉ.	2964	11th Nov. 1870	An improved steam machine for agricultural work and land transport of every kind. (*Patented by William Edward Gedge.*)
PETRACCHI, ATTILIO R. - -	1969	12th July 1870	Improvements in drying malt, grain and other substances, and in the apparatus therefor. (*Patented by Nicholas Constantine Maximos.*)
PETRE, CHARLES - - -	3374	24th Dec. 1870	Match and fusee boxes.
PETRE, LOUIS - - - -	3374	24th Dec. 1870	Match and fusee boxes.
PETRIE, JOHN, junior - -	386	9th Feb. 1870	Machinery or apparatus for washing or scouring and drying wool and other fibrous materials, and yarns or threads.
PETRIE, JOHN, junior - -	2060	21st July 1870	Machinery for washing or scouring wool and other fibrous materials.
PETTITT, EDWIN - - -	2540	22nd Sept. 1870	Machinery for preparing and spinning cotton and other fibrous substances.
PEYMAN, ALEXANDER - -	1936	8th July 1870	Wheels to be used on railways. (*Patented by Philip Chaplin.*)
PEYROUNIL, LOUIS EDOUARD -	479	18th Feb. 1870	Manufacture of gelatine capsules or transparent covers or cases for thread, cotton or other articles.
PEYTON, EDWARD - - -	1435	18th May 1870	Improvements in the manufacture of welded iron or steel tubes, and in the means or apparatus employed in such manufacture.
PEYTON, EDWARD - - -	1436	18th May 1870	Manufacture of metallic bedsteads, sofas, couches or other articles for sitting or reclining upon.
PFLAUM, JOHN FREDERICK [AUGUSTUS.	356	7th Feb. 1870	Improvements in clutches for engaging and disengaging parts of machinery, and in apparatus for working such clutches.
PFLAUM, JOHN FREDERICK [AUGUSTUS.	1280	4th May 1870	Machinery for puddling.
PFLAUM, JOHN FREDERICK [AUGUSTUS.	2542	22nd Sept. 1870	Driving wheels applicable to traction engines.
PHILCOX, GEORGE CHILDREN	222	25th Jan. 1870	Marine chronometers, watches and other time-keepers.
PHILCOX, GEORGE CHILDREN	2084	23rd July 1870	Marine chronometers, watches, railway and other time-keepers.
PHILIPS, JOSEPH BAKER -	2701	13th Oct. 1870	Apparatus for securing corks and stoppers in bottles.
PHILIPSON, JOHN - - -	1087	13th April 1870	Carriage windows.
PHILIPSON, JOHN - - -	2599	30th Sept. 1870	Carriage windows.
PHILLIPS, GEORGE - - -	2049	20th July 1870	Preparing charcoal for decolorising syrups and other solutions.
PHILLIPS, JAMES EDWIN -	2847	29th Oct. 1870	Ploughs.
PHILLIPS, SAMUEL ELKENS -	627	3rd March 1870	Electric cables or conductors.
PHILLIPS, THOMAS - - -	2898	3rd Nov. 1870	Ploughs.
PHILLIPS, WILLIAM JOHN -	3154	1st Dec. 1870	Revolving fire-arms. (*Patented by Alexander Melville Clark.*)
PIAT, CHARLES - - -	1532	26th May 1870	Looms for weaving. (*Patented by William Edward Newton.*)
PICARD, BARTHÉLEMY - -	2139	1st Aug. 1870	Propelling vessels by utilizing the current of rivers as a motive-power.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PICARD, BARTHÉLEMY - -	2140	1st Aug. 1870	Navigation of vessels by means of revolving sails actuating screws or paddles.
PICCALUGA, ANTOINE - -	1650	8th June 1870	Apparatus for manufacturing iced sirup or cream and soda water beverages.
PICKERING, CHARLES - -	2815	26th Oct. 1870	Construction of knife-cleaning machines.
PICKERING, JOHN - - -	995	5th April 1870	Forming holes in iron castings.
PICKERING, JONATHAN - -	650	5th March 1870	Castors.
PICKERING, JONATHAN - -	3009	17th Nov. 1870	Apparatus for raising and lowering weights and for reducing speed.
PICKERING, WILLIAM PERCIVAL.	3232	9th Dec. 1870	Improved means of signalling on railways.
PICKUP, JAMES - - - -	993	5th April 1870	Machinery to be employed in drawing, spinning and twisting fibres.
PIDDINGTON, JOHN - -	2107	27th July 1870	Improvements in revolvers and revolving fire-arms, and in apparatus to be used therewith. (*Communicated by Albert Spirlet.*)
PIDGEON, DANIEL - - -	2372	30th Aug. 1870	Cutting apparatus of reaping and mowing machines.
PIEDBŒUF, GUSTAVE - -	351	7th Feb. 1870	Means or apparatus for straightening, stamping-out, shearing and otherwise shaping and treating iron, steel, copper and other metallic plates and sheets. (*Patented by Hermann Wedekind.*)
PIEGROME, JOHN - - -	678	8th March 1870	Construction of rails for railways.
PIERCE, GEORGE HENRY -	2165	3rd Aug. 1870	A new or improved apparatus or "tile" for forming wine bins or receptacles for wine or other bottles.
PIERCY, HENRY JAMES TAYLOR.	978	2nd April 1870	Tube cutters and screw stocks.
PIERRET, VICTOR ATANAS -	987	4th April 1870	An improved illuminated night clock. (*Patented by William Robert Lake.*)
PIERS, SIR EUSTACE FITZMAURICE, Baronet.	3046	21st Nov. 1870	Improvements in the construction and arrangement of forts or towers, and in the mode of working the guns therein.
PILKINGTON, WILLIAM WINDLE.	2201	8th Aug. 1870	Improvements in the manufacture of sheet glass and in apparatus connected therewith.
PILKINGTON, WILLIAM WINDLE.	3382	28th Dec. 1870	An improved mode of opening out sheet glass cylinders.
PILKINGTON, WOODFORD -	2226	10th Aug. 1870	Construction of wheels.
PIMONT, PROSPER - - -	1379	14th May 1870	Manufacture and application of a composition or compositions for preserving the surfaces of walls, metals, wood and other materials.
PINCHBECK, JOHN - - -	790	17th March 1870	Certain improvements in water tube boilers.
PINCHBECK, JOHN - - -	2118	28th July 1870	Certain improvements in water tube boilers.
PINKNEY, ROBERT - - -	1863	30th June 1870	Production of colors from aniline in dyeing and printing.
PINNEY, JOHN - - -	369	8th Feb. 1870	Organs.
PINNINGTON, CHARLES - -	2308	20th Aug. 1870	An improved pavement.
PIRET, JEAN BAPTISTE GABRIEL MARIE FRÉDERIC.	1273	3rd May 1870	Steam carriages for common road locomotion. (*Patented by Alexander Melville Clark.*)
PIRIE, DAVID - - - -	2566	26th Sept. 1870	An improved machine for cutting paper-hangings.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PITT, ROBERT - - - -	1449	19th May 1870	Valves for drawing off water and other fluids, applicable to water cranes and for other uses.
PLASKITT, JOSEPH - - -	1094	14th April 1870	Velocipedes. (*Communicated by Charles Dopping Irvine.*)
PLATT, CLARK M. - - -	3188	3rd Dec. 1870	Buttons. (*Patented by George Haseltine.*)
PLATT, THOMAS - - -	2503	17th Sept. 1870	Construction of railway axles.
PLAYER, JACOB HORT - -	1411	17th May 1870	Apparatus for the manufacture of phosphorus.
PLESSIER, JULES ELIE - -	991	5th April 1870	An improved machine or apparatus for winding yarns or threads on bobbins. (*Patented by Hector Augustus Dufrené.*)
PLESSNER, JOHANN MAXIMELIAN.	194	22nd Jan. 1870	Improvements in apparatus for and in the treatment of liquid fuel, and in the application thereof to prime movers.
PLOWRIGHT, CHARLES HORTON.	2033	19th July 1870	An improved wind-engine or apparatus for obtaining and applying motive-power.
PLOWRIGHT, WILLIAM - -	2033	19th July 1870	An improved wind-engine or apparatus for obtaining and applying motive-power.
PLUMMER, HIRAM - - -	43	5th Jan. 1870	Sewing-machines.
POCOCK, ALFRED - - -	1402	16th May 1870	Improved apparatus for enabling invalids and other persons to drink in a recumbent position.
POCOCK, ALFRED WILLMER -	1634	6th June 1870	Meters, pumps or other engines for water or other liquid.
POCOCK, ALFRED WILLMER -	2275	17th Aug. 1870	Meters for measuring water and other liquids.
POHL, OTTO ERNEST - -	277	31st Jan. 1870	Improvements in ships to adapt them to receive sliding keels, and in sliding keels and appliances.
POHL, OTTO ERNEST - -	444	15th Feb. 1870	Submerged propellers.
POLLACK, SCHMIDT AND COMPANY.	1677	9th June 1870	Construction of cabinets, stands or receptacles for sewing-machines. (*Patented by Johannes Heinrich Ludwig Theodor Pörtner.*)
POLLARD, WILLIAM - -	853	23rd March 1870	An improved trap for catching mice, rats and other vermin or animals.
POLLIT, JOSEPH - - -	1212	27th April 1870	Steam-engines.
POLLOCK, JULIUS FREDERICK MOORE.	3295	16th Dec. 1870	Machinery or apparatus for breaking, crushing and pulverizing cement and other substances.
POLSON, JOHN - - -	683	8th March 1870	Improvements in treating grain and in the mechanism employed therefor.
POLSON, JOHN - - -	736	12th March 1870	A new or improved application of machinery for treating grain in order to obtain certain products therefrom.
POLSON, WILLIAM - - -	1681	11th June 1870	Improvements in treating farinaceous substances and in apparatus therefor.
PONSARD, AUGUSTE - -	81	11th Jan. 1870	Apparatus for puddling iron, applicable also as tuyeres for metallurgical furnaces generally. (*Patented by John Henry Johnson.*)
PONSARD, AUGUSTE - -	1624	4th June 1870	Furnaces for metallurgical purposes. (*Patented by John Henry Johnson.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PONTIFEX, CHARLES - -	389	10th Feb. 1870	Machinery or apparatus for pressing spent hops, grains, beetroot or other substances used in the processes of brewing and distilling, to extract liquor or moisture therefrom.
PONTIFEX, EDMUND ALFRED -	2621	1st Oct. 1870	Apparatus for cutting sugar canes and other substances.
PONTIFEX, EDMUND ALFRED -	3015	17th Nov. 1870	Centrifugal machines.
PONTIFEX, FREDERICK - -	389	10th Feb. 1870	Machinery or apparatus for pressing spent hops, grains, beetroot or other substances used in the processes of brewing and distilling, to extract liquor or moisture therefrom.
POOK, WILLIAM RICHARD -	3060	23rd Nov. 1870	Ventilating sewers by apparatus adapted for that purpose.
POOLEY, HENRY - - -	1787	23rd June 1870	An improved automatic machine for weighing and registering grain and other substances.
PORTER, JAMES - - -	921	30th March 1870	Improved apparatus for steering ships. (*Patented by Thomas Allen Hickley and William Utting.*)
PORTER, ROBERT - - -	2169	4th Aug. 1870	Horizontal steam-boilers.
PORTER, SAMUEL M. - -	3188	3rd Dec. 1870	Buttons. (*Patented by George Haseltine.*)
PÖRTNER, JOHANNES HEINRICH LUDWIG THEODOR.	1677	9th June 1870	Construction of cabinets, stands or receptacles for sewing-machines. (*Communicated by Messrs. Pollack, Schmidt and Company.*)
POSSOZ, ANTOINE LOUIS -	28	4th Jan. 1870	Processes for the purification of saccharine syrups. (*Patented by John Garrett Tongue.*)
POTTER, ABIATHA FALES -	1360	12th May 1870	Projectiles. (*Patented by John Henry Johnson.*)
POTTER, HAROLD - - -	693	9th March 1870	Bleaching vegetable fibres.
POULAIN, MARIE ETIENNE JULES.	990	5th April 1870	Manufacture of iron. (*Patented by Henry Woodcroft Hammond.*)
POUNDS, ROBERT HENRY -	1507	24th May 1870	Ropes and cables.
POUTILOFF, NICHOLAS JOHN -	72	10th Jan. 1870	Treatment of cast iron for the production of castings therefrom. (*Patented by Charles Denton Abel.*)
POWELL, EDWARD JOHN - -	2206	9th Aug. 1870	A new or improved composition for preserving iron and steel from rust.
POWERS, TIMOTHY JAMES -	2611	1st Oct. 1870	Fixed ammunition for fire-arms and tools for the manufacture of the same.
PRANGLEY, WILLIAM - -	3080	24th Nov. 1870	Commodes or portable water-closets.
PRATT, DANIEL RICE - -	636	3rd March 1870	Permanent way of railways. (*Patented by William Robert Lake.*)
PRATT, DANIEL RICE - -	2385	1st Sept. 1870	Permanent way of railways. (*Patented by William Robert Lake.*)
PRATT, FRANCIS ASHBURY -	319	3rd Feb. 1870	An improved friction clutch. (*Patented by William Robert Lake.*)
PRATT, FRANCIS A. - - -	744	14th March 1870	Improved apparatus for indicating a deficiency of water in steam-boilers, and for regulating the supply of water thereto. (*Patented by William Robert Lake.*)
PRATT, FREDERICK MANTELL	2161	3rd Aug. 1870	Tell-tale clocks.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PRATT, HENRY THOMAS - -	1844	28th June 1870	An improved machine for hulling coffee and rice. (*Patented by William Robert Lake.*)
PRATT, RUFUS NUTTING - -	744	14th March 1870	Improved apparatus for indicating a deficiency of water in steam-boilers, and for regulating the supply of water thereto. (*Patented by William Robert Lake.*)
PRATT, WILLIAM THOMAS [CASSEL.	3222	8th Dec. 1870	Improved apparatus for signalling on railways.
PREECE, WILLIAM HENRY -	1268	3rd May 1870	Mode of and apparatus for working railway signals.
PRESTIGE, JOHN - - -	689	8th March 1870	An improved apparatus for preventing waste of water in dwellings and other places where the constant supply service is laid on.
PRESTON, GEORGE - - -	689	8th March 1870	An improved apparatus for preventing waste of water in dwellings and other places where the constant supply service is laid on.
PRESTON, HENRY BERTHON -	923	30th March 1870	Apparatus for evaporating sugar. (*Communicated by José Guardiola.*)
PRESTON, JOHN - - -	2154	2nd Aug. 1870	Let-off mechanism of looms for weaving. (*Patented by William Robert Lake.*)
PRICE, ASTLEY PASTON - -	607	2nd March 1870	Improvements in the treatment of sewage and in the production of manures.
PRICE, ASTLEY PASTON - -	1137	19th April 1870	Improvements in the treatment of sewage and in the production of manures.
PRICE, ASTLEY PASTON - -	1314	7th May 1870	Improvements in the treatment of sewage and in the production of manures.
PRICE, ASTLEY PASTON - -	1789	23rd June 1870	Production of compounds capable of being employed as manures.
PRICE, GEORGE - - -	2563	24th Sept. 1870	Machinery and tools for pressing washers, bucket ears, box clips and similar articles, out of sheet metal.
PRICE, GEORGE ARTHUR -	2563	24th Sept. 1870	Machinery and tools for pressing washers, bucket ears, box clips and similar articles, out of sheet metal.
PRICE, HUGH BULKELEY -	3307	19th Dec. 1870	Improvements in the process of extracting oil from olives or olive cakes, and in machinery to be employed therefor.
PRICE, THOMAS - - -	2650	6th Oct. 1870	Manufacture of tin plates and other metal-coated plates.
PRIDEAUX, THOMAS SYMES -	2227	11th Aug. 1870	Apparatus for regulating the supply of air to furnaces.
PRIDGEON, WILLIAM - -	1671	9th June 1870	Apparatus for governing and controlling steam-engines.
PRIESTLAND, CHARLES - -	955	1st April 1870	Certain improvements in metallic adjusters applicable for adjusting braces, garters and other articles of dress, and which said improvements are also applicable for suspending curtains or other drapery.
PRIESTLEY, WILLIAM JOHN [EMERSON.	2406	3rd Sept. 1870	Hackles of hackling machines employed in the preparation of flax, hemp, jute or other fibrous materials.
PRIESTMAN, JOHN - - -	1600	2nd June 1870	Improved means and apparatus for dressing or finishing leather.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PRIESTMAN, THOMAS - -	1600	2nd June 1870	Improved means and apparatus for dressing or finishing leather.
PRINCE, ALEXANDER - -	424	12th Feb. 1870	Improvements in generating gas from petroleum and other oleaginous substances, and in the apparatus to be employed therein. (*Communicated by Augustin Irel Ambler.*)
PRINCE, ALEXANDER - -	1908	6th July 1870	Improvements in soldiers' litters and in trucks or ambulances connected therewith. (*Communicated by Dr. Carl Heinrich Rudolf Stanelli.*)
PRINCE, ALEXANDER - -	2248	12th Aug. 1870	Improvements in generating gas from petroleum and other oleaginous substances, and in the apparatus to be employed therein. (*Communicated by Augustin Irel Ambler.*)
PRINCE, FREDERIC, the younger	381	9th Feb. 1870	Improved mechanical arrangements to be adapted to the rails of lines of railways, and used in combination with fixed railway signals, for preventing such signals being passed in dark or foggy weather or otherwise, without the knowledge of the engine driver or guard in charge of the train.
PRITCHETT, JAMES PIGOTT -	307	2nd Feb. 1870	Fire-places or stoves.
PRITTY, HENRY - - -	57	7th Jan. 1870	Means or apparatus for damping copying paper, stamps, labels and other materials and articles.
PROSSER, TREAT TIMOTHY -	2434	8th Sept. 1870	A new or improved tube expander and tube cutter combined.
PROSSER, TREAT TIMOTHY -	2608	1st Oct. 1870	New or improved modes of and means or apparatus for utilizing the power and heat of the steam used in motive-power engines and for other purposes. (*Patented by William Richard Middlemore Thomson.*)
PROUD, THOMAS - - -	836	21st March 1870	An improved sieve for gas-purifiers and scrubbers.
PROVEN, JOHN - - -	2601	30th Sept. 1870	Improved means or apparatus for putting driving straps upon drums or pullies when in motion.
PROWSE, ROBERT SAUNDERS -	756	15th March 1870	Hand trucks.
PULLIAM, WALKER VAUGHN -	1598	2nd June 1870	Improved self-adjusting couplers for connecting and disconnecting railway carriages, locomotives and other vehicles used on railways.
PULMAN, FREDERICK - -	1894	4th July 1870	Apparatus for indicating or marking games.
PUNSHON, ROBERT - - -	379	9th Feb. 1870	Improved davits for securing boats on ships' decks at sea, without lashing.
PUNSHON, ROBERT - - -	529	23rd Feb. 1870	An improved method of raising, lowering and moving weights.
PUNSHON, ROBERT - - -	1693	13th June 1870	Apparatus for indicating the local deviation of the mariners' compass in iron or other ships.
PUNSHON, ROBERT - - -	2667	31st Oct. 1870	Manufacture of gun cotton.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
PURCELL, WILLIAM JAMES -	56	7th Jan. 1870	Improvements in the means for moistening the sheets of letter books and copying paper, and in apparatus connected therewith.
PURDEY, JAMES - - -	3118	28th Nov. 1870	An improvement in the action of break-down guns with a snap fastening.
PUTNEY, SAMUEL - - -	1972	12th July 1870	An improved apparatus to be worn by railway travellers, for lessening the effects of vibration on the spine or nervous system.

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QUELCH, WILLIAM BEWICK -	947	31st March 1870	Chairs and fastenings for rails for railways.
QUICK, CHARLES - - -	1891	4th July 1870	Construction of carriages.

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RAGON, ADOLPHE ERNEST -	1684	11th June 1870	Form and construction of steam and other ships and floating vessels.
RAINFORD, WILLIAM - -	1759	21st June 1870	Improvements in wardrobes, which improvements are applicable to other articles of furniture and to the fitting of show and such like rooms.
RAINFORTH, RICHARD GUEST	910	29th March 1870	Means of and apparatus for consuming smoke.
RAINFORTH, RICHARD GUEST	2589	29th Sept. 1870	Means of and apparatus for consuming smoke.
RAINFORTH, WILLIAM, senior -	776	16th March 1870	Rotary corn screens for dressing and separating grain.
RAINFORTH, WILLIAM, junior -	776	16th March 1870	Rotary corn screens for dressing and separating grain.
RAKE, ALFRED STANSFIELD -	2670	8th Oct. 1870	Improvements in condensing and cooling the smoke and products of combustion arising from steam-boiler and other furnaces, and in the apparatus employed therein.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
RAMMELL, THOMAS WEBSTER	449	16th Feb. 1870	Improvements in steam and other boilers, and super-heating, condensing, refrigerating and evaporating vessels and apparatus, and in the plates and tubes employed.
RAMSAY, HENRY MALCOLM -	2032	19th July 1870	Improvements in the treatment of sewage or other liquids or solutions, and the production therefrom of manurance precipitates or other solids, as also for raising sewage or other liquids or matters, by floating tanks or by the action of tidal waters.
RAMSBOTTOM, JOHN - -	347	7th Feb. 1870	Apparatus to be employed for registering the number of games played at billiards.
RAMSDEN, JOHN CARTER -	167	19th Jan. 1870	Mechanism or apparatus for producing a piled surface.
RAMSDEN, JOHN CARTER -	761	15th March 1870	Looms for weaving.
RAMSDEN, JOHN CARTER -	2127	29th July 1870	Looms for weaving.
RAMSDEN, ROBERT - -	2253	13th Aug. 1870	An improvement in furnaces.
RAMSDEN, WILLIAM - -	886	25th March 1870	Apparatus for facilitating the sorting of wool.
RAMSTEN, HENRIK - -	2020	18th July 1870	Ships' logs.
RAND, WILLIAM JAMES - -	948	31st March 1870	Preparing Iceland and Irish moss for use as a food. (*Patented by Alfred Vincent Newton.*)
RANDALL, JOHN - - -	1196	25th April 1870	Construction of harrows.
RANDALL, JOHN - - -	2655	7th Oct. 1870	Agricultural drills.
RANDALL, SAMUEL - -	1196	25th April 1870	Construction of harrows.
RANDALL, SAMUEL - -	2655	7th Oct. 1870	Agricultural drills.
RANDALL, WILLIAM PARMINGTER.	1729	16th June 1870	Gas meters.
RANDOLPH, PETER FITZ - -	2615	1st Oct. 1870	An improved machine for polishing metal and other surfaces. (*Patented by George Haseltine.*)
RANSOME, ALLEN - - -	3029	18th Nov. 1870	Machinery for cutting and shaping wood.
RANSOME, FREDERICK - -	1233	29th April 1870	Improvements in the manufacture of artificial stone, and in the manufacture of vessels for containing or conveying acids or acid vapours, or heated air or gases.
RANSOME, JAMES EDWARD -	662	5th March 1870	Double furrow and other ploughs.
RAPHAËL, JAMES - - -	639	4th March 1870	Umbrellas, parasols and sunshades.
RAPIER, RICHARD CHRISTOPHER.	2305	20th Aug. 1870	Railway locking apparatus for switches and signals.
RAPIER, RICHARD CHRISTOPHER.	2586	29th Sept. 1870	Machinery or apparatus for working and interlocking railway switches, tongues, or moveable points and signals.
RASTOUIN, VINCENT - -	1818	27th June 1870	Steam-engines.
RATCLIFF, EDMUND - -	1625	4th June 1870	Certain improvements in vestibule lamps.
RAWCLIFFE, JOHN, junior -	2289	19th Aug. 1870	Mules for spinning.
RAWLINS, WASHINGTON CHAMPION.	1277	4th May 1870	Reversing gear for engines.
RAWLINSON, HENRY - -	1646	7th June 1870	An improved arrangement of reversing and expansion gear for steam-engines.
RAWORTH, JOHN SMITH - -	953	1st April 1870	Machines for doubling and spinning.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Rawson, Christopher - -	3364	24th Dec. 1870	Improvements in heating, drying and evaporating, and in apparatus to be used therein.
Rawson, Christopher - -	3399	30th Dec. 1870	Improvements in deodorizing and purifying sewage, urine and refuse matters and liquids, and in making manure therefrom, and in apparatus for those purposes.
Rawsthorne, Thomas - -	2549	23rd Sept. 1870	Mules for spinning.
Raywood, John - - -	2530	21st Sept. 1870	An improved iron for ironing, to be used for laundry, domestic, manufacturing and general purposes.
Read, Alfred William -	3348	22nd Dec. 1870	Manufacture of non-inflammable brattice cloths.
Read, Henry Barton - -	146	18th Jan. 1870	A new or improved wrapping rug for use in travelling.
Read, Isaac Alfred - -	3172	2nd Dec. 1870	Metallic bedsteads and cots.
Read, Joseph - - -	2647	6th Oct. 1870	Revolving and other heels for boots and shoes. (*Patented by Thomas Jennings.*)
Read, Thomas - - -	1924	7th July 1870	Construction of reaping machines.
Read, Thomas - - -	3237	9th Dec. 1870	Construction of reaping and mowing machines.
Read, William Thomas -	3076	24th Nov. 1870	Purifying beer.
Redfern, Henry - - -	2041	20th July 1870	Manufacture of ball valves for supplying water cisterns and tanks.
Redfield, George Snowden	1357	12th May 1870	Construction of steam valves or cocks. (*Patented by William Edward Newton.*)
Redford, Joseph - - -	1984	14th July 1870	Looms for weaving.
Redgrave, Gilbert Richard	3028	18th Nov. 1870	Improved machinery or apparatus for mixing or compounding selenitic mortar, concrete and other cementitious substances or preparations.
Reece, Rees - - - -	2891	2nd Nov. 1870	Apparatus for cooling and refrigerating liquids, manufacturing ice, and obtaining ammoniacal solution for the same and other purposes.
Reed, Albert Edwin - -	2106	26th July 1870	Manufacture of paper.
Reed, Alfred Augustus, [junior.	1658	8th June 1870	Cartridge cases for breech-loading fire-arms. (*Patented by William Edward Newton.*)
Reed, Daniel - - -	544	24th Feb. 1870	Machinery for manufacturing nails. (*Patented by Edward Thomas Hughes.*)
Reed, John Van Dussen -	2402	2nd Sept. 1870	Looms for weaving hats. (*Patented by Alexander Melville Clark.*)
Reede, Cornelis Johannes [Wilton Van.	1488	23rd May 1870	Screw propellers. (*Patented by Alexander Browne.*)
Reedy, Henry - - -	1257	2nd May 1870	An improved hoisting machine. (*Patented by James Jennings McComb.*)
Reeve, William George -	2813	26th Oct. 1870	A new or improved fountain.
Reichel, Jules - - - -	186	21st Jan. 1870	Improvements on buttons and clasps for linen and other garments, likewise applicable for the fixture of any article of toilette to human apparel.
Reid, James - - - -	1778	22nd June 1870	Locomotive steam-engines.
Reid, John - - - -	3323	20th Dec. 1870	An improved liquid meter.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Reid, Thomas - - -	491	19th Feb. 1870	Improvements in ploughing and in ploughing implements.
Reid, William Orr - -	1164	21st April 1870	An improved adjustable bedstead. (*Patented by Alfred Vincent Newton.*)
Reis, Antonio Batalha -	939	31st March 1870	A new or improved apparatus applicable to barrels, casks or vessels for the preservation of fermented liquors.
Renard, Césaire - - -	265	28th Jan. 1870	An improved machine to be used in currying leather. (*Patented by Alexander Melville Clark.*)
Rendel, George Wightwick	1448	19th May 1870	Cartridges for ordnance.
Rendel, George Wightwick	3302	17th Dec. 1870	Breech-loading ordnance.
Rendle, William Edgcumbe	1349	11th May 1870	Glazed structures for horticultural purposes.
Renneson, Augustin Pierre [Joseph.	1983	14th July 1870	Steam generators. (*Patented by William Spence.*)
Rennie, James - - -	2842	28th Oct. 1870	Furnaces for boiling "worts" or other liquors.
Renshaw, Charles Bine -	3352	22nd Dec. 1870	Power looms.
Renshaw, George Pearson	3395	30th Dec. 1870	Improvements in hydraulic breaks for railway rolling stock, partly applicable to the supplying of the tender or feed tank with water.
Restell, Thomas - - -	116	13th Jan. 1870	Breech-loading arms and cartridges.
Restell, Thomas - - -	1635	6th June 1870	Improvements in military and sporting guns, and also in cartridges applicable to the same or other descriptions of breech-loading arms.
Restell, Thomas - - -	2360	27th Aug. 1870	Breech-loading fire-arms.
Reuger, Johannes - -	1918	7th July 1870	Smoothing irons. (*Patented by Alexander Melville Clark.*)
Reynolds, Osborne - -	1878	2nd July 1870	Machinery for propelling ships or vessels.
Reynolds, Osborne, M.A. -	2219	10th Aug. 1870	Thatch-making machinery.
Reynolds, William Francis	126	15th Jan. 1870	Improvements in ships' logs and sounding machines, and in the rotators thereof.
Reynolds, William Francis	2746	19th Oct. 1870	India-rubber or caoutchouc tires for wheels.
Rheinberg, Ising - - -	3002	16th Nov. 1870	Penholders.
Rheinberg, Nathan - -	3002	16th Nov. 1870	Penholders.
Rhodes, Edwin - - -	112	13th Jan. 1870	An improved means or method of exhibiting names, photographs, views, designs or sketches in monuments, door or other knobs, boxes, walking-sticks, umbrellas and various other articles.
Rhodes, James - - -	2747	19th Oct. 1870	Flat pins used in machinery for preparing and combing wool, jute, flax, silk, cotton and other fibrous materials.
Rhodes, James Woodawiss -	2450	10th Sept. 1870	Tobacco pipes.
Rhodes, Vernon - - -	2634	4th Oct. 1870	An improved chamber utensil. (*Patented by Alfred Vincent Newton.*)
Rhodes, William Henry -	771	16th March 1870	Mules for spinning and doubling.
Rhodes, William Henry -	2700	13th Oct. 1870	Machinery for preparing, spinning, winding and doubling cotton and other fibrous materials, partly applicable to lubricating upright shafts.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
RICE, ISRAEL LUDLOW GARRARD.	2115	28th July 1870	Inking apparatus for printing presses.
RICH, JOHN TATEM - -	2557	23rd Sept. 1870	Steam-boiler and other furnaces and stoves.
RICHARD, CHARLES - -	729	11th March 1870	Construction of piers, jetties and similar structures. (*Patented by Michael Henry.*)
RICHARD, CHARLES - -	2412	5th Sept. 1870	Improvements in the construction of piers, jetties, docks and other similar structures, and in apparatus employed therein. (*Patented by Michael Henry.*)
RICHARD, JOHN - - -	2311	22nd Aug. 1870	Printing machines and "flying grippers" for removing or taking the printed sheets from the machine cylinder.
RICHARD, JOHN - - -	3102	26th Nov. 1870	Means or apparatus employed in machine printing.
RICHARD, WALTER - -	2311	22nd Aug. 1870	Printing machines and "flying grippers" for removing or taking the printed sheets from the machine cylinder.
RICHARD, WALTER - -	3102	26th Nov. 1870	Means or apparatus employed in machine printing.
RICHARD, WALTER MILLER -	2311	22nd Aug. 1870	Printing machines and "flying grippers" for removing or taking the printed sheets from the machine cylinder.
RICHARD, WALTER MILLER -	3102	26th Nov. 1870	Means or apparatus employed in machine printing.
RICHARDS, CHARLES FREDERICK.	2129	29th July 1870	Improvements in the manufacture of lockets, which said improvements are also applicable to miniature brooches and bracelets.
RICHARDS, JOHN - - -	509	21st Feb. 1870	Improvements in cheques, bills of exchange and other like documents, for the purpose of preventing fraud.
RICHARDS, WESTLEY - -	144	18th Jan. 1870	Breech-loading fire-arms and cartridges.
RICHARDS, WESTLEY - -	2205	9th Aug. 1870	Fire-arms.
RICHARDS, WESTLEY - -	2809	25th Oct. 1870	Improvements in breech-loading fire-arms, and in fixing bayonets to breech-loading fire-arms.
RICHARDS, WILLIAM - -	370	8th Feb. 1870	An improved composition for preventing the fouling of iron and other ships' bottoms, and for preserving metal and other surfaces.
RICHARDSON, ALFRED THOMAS	864	24th March 1870	Manufacture of crape.
RICHARDSON, ALFRED THOMAS	1220	28th April 1870	Manufacture of crape.
RICHARDSON, GEORGE - -	6	1st Jan. 1870	Mode or method of supplying baths and other places with hot water.
RICHARDSON, HENRY MASON -	78	10th Jan. 1870	Lamps.
RICHARDSON, JOHN - -	142	17th Jan. 1870	Manufacture of artificial manure.
RICHARDSON, JOHN - -	155	19th Jan. 1870	Certain improvements in apparatus to be employed for sharpening scissors, knives or other similar edged tools.
RICHARDSON, JOHN JAMES -	171	19th Jan. 1870	Machinery or apparatus for pointing or grinding hackle, gill, card or other pins and teeth used in machinery for preparing woollen, cotton, flax or other fibrous substances.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Richardson, John James -	2747	19th Oct. 1870	Flat pins used in machinery for preparing and combing wool, jute, flax, silk, cotton and other fibrous materials.
Richardson, John William	2910	4th Nov. 1870	Manufacture of rails.
Richardson, Robert - -	589	28th Feb. 1870	Ports, harbours and landing stages.
Richardson, Thomas - -	2910	4th Nov. 1870	Manufacture of rails.
Richardson, William - -	2157	2nd Aug. 1870	Condensing carding-engines.
Richardson, William Haden	2121	28th July 1870	A new method of indicating or stamping with the standard or other mark china, earthenware and metallic measures for containing beer and other liquids.
Richardson, William Haden	2529	20th Sept. 1870	Improvements in lamps and in the construction of lenses and reflectors.
Richmond, Thomas - -	1785	23rd June 1870	Certain improvements in the preparation of "cops" and "healds" employed in the manufacture of woven fabrics.
Ricketts, John - - -	253	28th Jan. 1870	Taps or cocks.
Riddell, William - -	1828	27th June 1870	Improved apparatus for cutting wood into small strips, filaments or shavings.
Riddle, William - - -	2348	26th Aug. 1870	Apparatus or appliances for saving life from fire.
Riddle, William - - -	2825	27th Oct. 1870	Pencil cases.
Rider, John, F. C. - -	1990	14th July 1870	An improved machine for manufacturing spools. (*Patented by William Robert Lake.*)
Ridges, John Edward - -	2178	4th Aug. 1870	Certain improvements in combined funeral or composite carriages.
Rieter, Henry - - -	3177	3rd Dec. 1870	Embroidering machines. (*Patented by Henry Bernoulli Barlow.*)
Rigby, James Oldrenshaw -	3247	12th Dec. 1870	A new application of a vegetable fibre to purposes for which feathers or feather down have heretofore been used.
Rigby, John - - - - -	258	28th Jan. 1870	Certain improvements in the manufacture of coach or carriage axles.
Rigollot, Paul - - -	1315	7th May 1870	Improvements in the manufacture of mustard and other plasters, and in machinery for the same. (*Patented by Emile Guenin.*)
Riley, Joseph - - -	359	8th Feb. 1870	An improvement in the manufacture of quilts, counterpanes, table or toilet covers and other similar fabrics.
Riley, Wilson - - -	1887	4th July 1870	Apparatus employed in drawing, roving, doubling, spinning and twisting wool and other fibres.
Rimes, Richard Hucknall -	841	22nd March 1870	Boots and shoes.
Ripley, Abraham - - -	584	28th Feb. 1870	A new or improved rotary engine.
Ripley, Abraham - - -	1295	6th May 1870	A new or improved pipe wrench.
Ritchie, George - - -	1802	24th June 1870	Sunshades, tents, tent pegs and weather protectors.
Ritchie, George - - -	2347	26th Aug. 1870	Umbrellas, sunshades and weather protectors.
Ritchie, Jessy Gertrude -	2347	26th Aug. 1870	Umbrellas, sunshades and weather protectors.
Ritterbandt, Louis Antoine	919	29th March 1870	Manufacture of peat charcoal.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
RITTERBANDT, LOUIS ANTOINE	1743	17th June 1870	Manufacture of peat charcoal. (*Partly communicated by Jean Baptist Passedoit.*)
ROBB, JOHN - - - -	540	24th Feb. 1870	Improvements in the mode of and in machinery for splitting rocks. (*Patented by Edward Primerose Howard Vaughan.*)
ROBB, JOHN - - - -	3179	3rd Dec. 1870	Four-way valve apparatus.
ROBBINS, HENRY ALFRED -	87	11th Jan. 1870	An improved apparatus for sharpening knives and in a composition to be used therewith. (*Patented by William Robert Lake.*)
ROBBINS, LOUIS - - -	1661	8th June 1870	Woven and knitted fabrics and yarns. (*Patented by George Tomlinson Bousfield.*)
ROBBINS, ZENAS COLMAN -	87	11th Jan. 1870	An improved apparatus for sharpening knives and in a composition to be used therewith. (*Patented by William Robert Lake.*)
ROBERT, JULIUS - - -	219	24th Jan. 1870	An improved method of extracting juices from plants and of separating liquid or soluble matter from solids. (*Patented by Ferdinand Kohn.*)
ROBERTS, FRANCIS WILLIAM -	1934	7th July 1870	An improved method or application for preserving the fronts or edges of stays, corsets and other similar articles.
ROBERTS, JOHN - - -	851	23rd March 1870	Machinery for felting hat bodies.
ROBERTS, JONATHAN MANNING	317	3rd Feb. 1870	Treating iron. (*Patented by Alfred Vincent Newton.*)
ROBERTS, JULIUS - - -	2855	31st Oct. 1870	Improvements in the construction of bridges, viaducts, roofs and floorings, and in apparatus for the purpose.
ROBERTS, MARTYN JOHN -	1019	7th April 1870	Propelling apparatus for ships and other vessels.
ROBERTS, MARTYN JOHN -	2856	7th Oct. 1870	Improved means or apparatus for stopping or regulating the flow of fluids, gases or steam.
ROBERTS, ROBERT JORDAN -	550	24th Feb. 1870	An improvement in the manufacture of needles. (*Patented by Alfred Vincent Newton.*)
ROBERTS, ROBERT MARTIN -	667	7th March 1870	Preparing and treating auriferous and argentiferous ores.
ROBERTS, THOMAS - - -	469	17th Feb. 1870	An improved method or means of ornamenting woollen, calicó and seal skin cloths.
ROBERTS, THOMAS - - -	842	22nd March 1870	Self-cleansing high-pressure filters for the purification of water.
ROBERTS, THOMAS - - -	1787	23rd June 1870	An improved automatic machine for weighing and registering grain and other substances.
ROBERTS, WILLIAM - -	2022	18th July 1870	Weighing machines.
ROBERTSHAW, JOHN - -	2854	29th Oct. 1870	Machinery to be employed for combing wool and other fibres.
ROBERTSON, DAVID - - -	298	1st Feb. 1870	Improvements in carding-engines, which improvements are applicable to other similar purposes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
ROBERTSON, JAMES - - -	2257	13th Aug. 1870	Improvements in drawing and bending sheet metal and in the machinery or apparatus therefor.
ROBERTSON, JAMES WALKER -	83	11th Jan. 1870	Switch apparatus for operating the points and crossings of the permanent way of railways. (*Patented by Charles Martin Wade.*)
ROBERTSON, JOHN - - -	1907	6th July 1870	Apparatus to be used in making tubes.
ROBERTSON, JOSEPH BUCHANAN.	2740	18th Oct. 1870	Sewing-machines.
ROBERTSON, WILLIAM - -	3336	28th Dec. 1870	A new system of railway adapted for the traffic of crowded streets of cities or towns or other places, of carriages for such railway, and means for propelling and stopping the same, part of which is applicable to the ordinary railway system.
ROBINE, PIERRE JOSEPH -	670	7th March 1870	Improved steam-boilers and furnaces, utilizing the lost heat of lime, cement, brick or other circular or other kilns.
ROBINSON, CHARLES FREDERICK.	652	5th March 1870	Machinery for twisting, compressing and rolling tobacco, applicable also to rolling, compressing and drawing metals.
ROBINSON, ELIJAH - - -	652	5th March 1870	Machinery for twisting, compressing and rolling tobacco, applicable also to rolling, compressing and drawing metals.
ROBINSON, JAMES - - -	3094	25th Nov. 1870	Looms for weaving.
ROBINSON, JAMES - - -	3140	30th Nov. 1870	Looms for weaving.
ROBINSON, JAMES HAMILTON	66	8th Jan. 1870	Construction of ships. (*Communicated by Augustus Robinson Hall.*)
ROBINSON, JOHN - - -	129	15th Jan. 1870	Machinery or apparatus for cutting wood into shreds or shavings to be used in the manufacture of paper.
ROBINSON, JOHN - - -	1302	6th May 1870	Double pile fabrics.
ROBINSON, JOHN - - -	2321	23rd Aug. 1870	Machinery or apparatus for cutting wood into shreds or shavings to be used in the manufacture of paper.
ROBINSON, LYMAN - - -	1516	25th May 1870	Machinery for forming bats of wool for felting purposes. (*Patented by John Falconer.*)
ROBINSON, M. W. - - -	1557	27th May 1870	Producing rotary motion applicable to egg beaters, churns, bottle washers, washing-machines, drills, tools and other instruments. (*Patented by William James Schlesinger.*)
ROBINSON, RICHARD - -	915	29th March 1870	Machinery or apparatus to be employed for preparing cotton and other fibrous substances for spinning.
ROBINSON, RICHARD CARDWELL.	1521	26th May 1870	Fire-grates.
ROBINSON, THOMAS - -	46	6th Jan. 1870	Improvements in treating sulphur, sulphide of hydrogen, pyrites and other compounds of sulphur, and in obtaining products therefrom.
ROBINSON, THOMAS - -	668	7th March 1870	Improvements in the manufacture and application of chlorine and in apparatus employed therein.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Robinson, Thomas - -	1028	7th April 1870	Apparatus for skimming cast iron during the process of casting.
Robinson, Thomas - -	3045	21st Nov. 1870	Manufacture of sulphates of soda and potassa.
Robinson, Thomas - -	3047	21st Nov. 1870	Apparatus employed or used in the manufacture of sulphates of soda and potassa.
Robinson, William - -	2044	20th July 1870	Manufacture of iron.
Robson, Christopher - -	2341	25th Aug. 1870	Improvements in scutching flax and other fibrous substances, and in the machinery or apparatus employed therefor.
Roche, Henri Alexandre -	1682	11th June 1870	An improved joint for water, gas and steam pipes. (*Patented by Bristow Hunt.*)
Rochussen, Theodore Anthony.	228	25th Jan. 1870	Producing heat and light.
Rock, Edward Abraham -	1357	12th May 1870	Construction of steam valves or cocks. (*Patented by William Edward Newton.*)
Rocke, Alfred Beale - -	139	17th Jan. 1870	Knobs and spindles for door locks and similar fastenings.
Roddey, P. D. - - -	3117	28th Nov. 1870	An automatic ventilator, alarm and pump for vessels. (*Patented by Benjamin Joseph Barnard Mills.*)
Rodgers, Augusta Margarette.	2097	26th July 1870	Certain improvements in canopies. (*Patented by Henri Adrien Bonneville.*)
Roehrig, Jacques - - -	314	3rd Feb. 1870	Fans. (*Patented by Benjamin Joseph Barnard Mills.*)
Roettger, Edward - -	1927	7th July 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdock.*)
Roettger, Edward - -	3108	26th Nov. 1870	Combination locks and padlocks and keys for the same. (*Patented by Hunter Henry Murdock.*)
Roger, Charles Armand -	478	18th Feb. 1870	Manufacture of stoppers for bottles of all kinds.
Rogers, Benjamin William	3285	15th Dec. 1870	Machinery for screwing bolts.
Rogers, John Frank - -	1356	12th May 1870	An improved fuse.
Rogers, John Frank - -	1610	3rd June 1870	An improved machine for decorticating fruits and vegetables.
Rogers, Joseph - - -	3314	19th Dec. 1870	Improvements in insulating telegraph wires and in the machinery or apparatus to be employed therein.
Rogers, Thomas - - -	2403	3rd Sept. 1870	An improved tucking guage and marker applicable for use on sewing-machines generally.
Rolfe, Samuel - - -	2479	14th Sept. 1870	Construction of harmoniums.
Rolland, Camille - -	289	1st Feb. 1870	Weighing-machines. (*Patented by Robert Boyd.*)
Rolls, Edwin C. - - -	1722	16th June 1870	Harmoniums and other reed instruments of music. (*Communicated by George William Scribner.*)
Ronald, James - - -	2957	10th Nov. 1870	An improved machine for forming strands and "laying up" or "topping-up" cordage.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Roome, Henry Clay - -	2876	1st Nov. 1870	Improvements applicable to safes, vaults and other structures for containing valuable property, and in alarm apparatus or telegraphs connected therewith. (*Patented by William Edward Newton.*)
Root, John Benjamin - -	1675	9th June 1870	Steam-boilers. (*Patented by William Edward Newton.*)
Root, John Benjamin - -	2414	5th Sept. 1870	Steam-boilers. (*Patented by William Edward Newton.*)
Roper, Francis - - -	575	26th Feb. 1870	Apparatus for feeding thrashing machines.
Rorison, David - - -	360	8th Feb. 1870	Looms for weaving.
Rose, Harry - - - -	1547	27th May 1870	Improvements in the mode of attaching mineral teeth to a plate or "back," which improvements also serve to strengthen the teeth.
Rose, Lauchlan - - -	1639	7th June 1870	An improved stopper for bottles, and bottle for containing gases or gases combined with liquids such as aërated beverages, whereby an improved mode of stoppering such bottles can be effected.
Rose, Thomas - - -	997	5th April 1870	Utilization of a certain material obtained in treating cotton seed and in machinery employed therein.
Rose, Thomas - - -	1879	2nd July 1870	An improved mode of and apparatus for raising or elevating certain kinds of paper-making materials from revolving bodies.
Rose, Thomas - - -	2532	21st Sept. 1870	Machinery for breaking cotton seed to facilitate the separation of the kernel from the husk.
Ross, Charles - - -	967	2nd April 1870	Mills for crushing and grinding. (*Patented by Henry Jackson.*)
Ross, John - - - -	967	2nd April 1870	Mills for crushing and grinding. (*Patented by Henry Jackson.*)
Ross, Robert Craib - -	1522	26th May 1870	An improved process and apparatus for preparing and finishing printed paper.
Ross, William - - -	2826	27th Oct. 1870	Improvements in and relating to ball valves and floats.
Ross, William Murray -	2040	20th July 1870	A new propulsion engine to be used for propelling bodies through the water and through the air, and for breaks to railway locomotives and other engines.
Rossignol, Alexandre [Amédée.	1339	11th May 1870	Improvements in writing music and in the apparatus employed therefor.
Rost, Charles Hermann -	799	17th March 1870	Manufacture of washable papers.
Rothera, Joseph - - -	2626	3rd Oct. 1870	Machinery for spinning and twisting fibrous substances.
Rothnie, George - - -	2481	15th Sept. 1870	Self-indicating thermometers.
Rothwell, Joseph Alfred -	2631	4th Oct. 1870	Stop valves.
Rothwell, William - -	2942	8th Nov. 1870	Improvements applicable to machinery for washing or scouring wool and other fibrous materials, applicable also to other machinery for conveying, opening and cleaning fibrous materials.
Rötig, Frederic - - -	183	21st Jan. 1870	Construction of watches.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
ROTTER, FREDERIC - - -	515	22nd Feb. 1870	A method of producing an improved black pigment and obtaining phosphates and other substances from the waste portions of the hop plant. (*Patented by William Robert Lake.*)
ROUSSEAU, EMILE - - -	98	12th Jan. 1870	Manufacture of sugar. (*Patented by William Edward Newton.*)
ROUTLEDGE, THOMAS - -	748	14th March 1870	Treatment of fibrous materials suitable for the manufacture of paper.
ROUTLEDGE, THOMAS - -	2470	13th Sept. 1870	Improvements in the treatment of fibrous materials suitable for the manufacture of paper, and in apparatus to be employed therein.
ROVEDINO, FREDERICK LIVERATI.	1885	4th July 1870	Manufacture of faggots or fire lighters.
ROVEDINO, FREDERICK LIVERATI.	3091	25th Nov. 1870	Manufacture of faggots or fire-lighters.
ROWAN, DAVID - - -	1815	27th June 1870	New or improved constructions and arrangements of valves and their actuating parts, and their application to steam-boilers and engines, suitable also for other purposes.
ROWATT, THOMAS, the younger	598	1st March 1870	Improved means and apparatus for testing petroleum and other oils.
ROWDEN, WILLIAM - -	972	2nd April 1870	Improved means or apparatus for reefing and stowing the sails of ships or vessels.
ROYLE, CHARLES SAMUEL -	3055	22nd Nov. 1870	Improvements in machinery or apparatus for felting hat bodies and other articles or materials requiring to be felted.
RUCK, WILLIAM DENNY -	3239	9th Dec. 1870	Manufacture of paper pulp.
RUCK, WILLIAM DENNY -	3254	12th Dec. 1870	Lamps.
RUDGE, JOHN FREDERICK -	2946	9th Nov. 1870	Machinery for slabbing or blooming iron and steel.
RUE, ERNEST DE LA - -	1107	14th April 1870	Croquet mallets.
RUE, WARREN WILLIAM DE LA	892	26th March 1870	Bezique markers.
RUE, WARREN WILLIAM DE LA	3303	17th Dec. 1870	Whist markers.
RUELENS, EDMOND LOUIS -	457	16th Feb. 1870	A new or improved system of registering or indicating apparatus for mining and other purposes.
RÜGER, GEORGES - - -	1918	7th July 1870	Smoothing irons. (*Patented by Alexander Melville Clark.*)
RUIZ, ARMAND - - -	1794	24th June 1870	Construction of revolving coilers applicable to looms for spinning hemp, flax and other textile matters.
RUNDLE, RICHARD - - -	40	5th Jan. 1870	An improved apparatus or means to be employed for the purpose of heating churches, chapels and other buildings.
RUSSELL, CORNELIUS - -	1046	9th April 1870	Manufacture of lace in twist lace machines.
RUSSELL, JAMES - - -	2004	15th July 1870	Improvements in or additions to puddling furnaces, heating furnaces, balling furnaces, and other furnaces used in the manufacture of iron and steel.
RUSSELL, JAMES - - -	3052	22nd Nov. 1870	Certain improvements in shirts.
RUSSELL, JOSEPH - - -	2771	20th Oct. 1870	Water-heating apparatus.
RUSSELL, ROBERT - - -	3315	19th Dec. 1870	Filters and the fittings connected therewith.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Russell, Thomas - - -	486	18th Feb. 1870	Arrangement and application of auxiliary screw propellers to sailing vessels.
Rutter, Robinson - -	1323	9th May 1870	Means or method of securing or locking screw bolts and nuts. (*Patented by Bristow Hunt.*)
Rutter, Robinson - -	2950	9th Nov. 1870	Means or method of securing or locking screw bolts and nuts. (*Patented by Bristow Hunt.*)
Ryan, John Perlee - -	1604	2nd June 1870	Furniture springs for seats, mattresses and other similar articles. (*Patented by William Edward Newton.*)
Ryder, Charles Edwin -	554	24th Feb. 1870	Improvements in the manufacture of copper tubes and also of copper rollers for calico printing, embossing and similar uses.
Rydill, George - - -	530	23rd Feb. 1870	A new method or methods for extracting and purifying mill waste, refuse flock material, and removing dyed colours and re-dying the same into other colours for re-manufacture, for using certain agents employed in the process and thereby making a manure.
Ryland, Frederick - -	2833	27th Oct. 1870	Machinery for shaping or raising sheet metal.

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Sabot, Jean - - - -	1483	23rd May 1870	Sewing-machines. (*Patented by Henri Adrien Bonneville.*)
Saint, Thomas - - -	222	25th Jan. 1870	Marine chronometers, watches and other time-keepers.
Saint, Thomas - - -	2084	23rd July 1870	Marine chronometers, watches, railway and other time-keepers.
Saladin, Louis Jean Bap-[tiste.	839	21st March 1870	An improved micrometric steelyard. (*Patented by William Robert Lake.*)
Salter, John - - -	3192	5th Dec. 1870	Steering apparatus.
Samels, Abel Edgar - -	2785	22nd Oct. 1870	Improved locks or fasteners for doors, gates, boxes and other similar purposes.
Sampson, Edward Barnard	1148	20th April 1870	Means or apparatus for feeding machinery employed in carding or preparing wool and other fibrous substances.
Sampson, James - - -	901	28th March 1870	An improved varnish paint.
Samuel, Charles - - -	2025	18th July 1870	Improvements in articles bearing or containing letters, characters, inscriptions or announcements, especially applicable for advertising purposes.
Samuel, William Henry -	755	15th March 1870	Improvements in friction lights and in apparatus to be employed therewith.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SANDEMAN, ARCHIBALD -	3319	19th Dec. 1870	A mode or modes of and apparatus for folding longitudinally and changing the planes of motion of travelling sheets or webs, which improvements are partly applicable to the driving belts of skewed pullies.
SANDERS-EZN, DOCTOR HEI-[MAN.	557	25th Feb. 1870	An improved method of and apparatus for producing and utilizing a fall of water. (*Patented by William Robert Lake.*)
SANDERSON, JOHN GLASGOW -	970	2nd April 1870	An improved pressing machine for the use of tailors and others.
SANDERSON, SOLOMON - -	704	10th March 1870	Improvements in or applicable to steam-boiler and other furnaces, for promoting the consumption of smoke.
SANDFORD, ELIJAH WARREN -	1826	27th June 1870	An improved friction brake for cars and other purposes. (*Partly communicated by William Leaver.*)
SANDILANDS, JOHN - -	685	8th March 1870	Dry gas meters.
SANGSTER, FRANCIS - -	341	5th Feb. 1870	Parasols and umbrellas.
SAUER, ARTHUR - - -	1396	16th May 1870	An improved liquid for raising paste or dough.
SAUER, GUSTAVE - - -	1396	16th May 1870	An improved liquid for raising paste or dough.
SAUNDERS, ROBERT - -	912	29th March 1870	Improved means for rendering water tight dock gates, ship's ports or other like openings, also applicable to windows, doors and other like openings.
SAUNDERS, ROBERT - -	1804	25th June 1870	Breakwaters and structures for coast protection.
SAUNDERSON, THOMAS - - -	2883	2nd Nov. 1870	Improvements in apparatus and in the manufacture of leather laces and strips.
SAVAGE, ELLIOT - - -	1100	14th April 1870	Production of metallic alloys of manganese. (*Patented by Alfred Vincent Newton.*)
SAVORAL, EDWARD - - -	551	24th Feb. 1870	Windmills. (*Patented by William Edward Newton.*)
SAVORY, CHARLES HARLEY -	1183	23rd April 1870	Improvements in the means of and apparatus for effecting fumigation, vaporization and inhalation, applicable to medicinal and sanatory purposes.
SAWYER, CHARLES BROOKS -	2208	9th Aug. 1870	Balance elevators. (*Patented by Alexander Horace Brandon.*)
SAWYER, JOHN ROBERT - -	3036	19th Nov. 1870	Preparation of printing surfaces in photo-mechanical printing.
SAWYER, JOSEPH - - -	865	24th March 1870	Improvements in steam-boiler and other furnaces, applicable in part to fire-grates and stoves of various kinds.
SAX, JULIUS - - - -	1808	25th June 1870	An improved mechanical recorder.
SAXBY, JOHN - - - -	569	25th Feb. 1870	Apparatus for working and locking or securing railway points and signals.
SCAIFE, JOHN - - - -	1665	9th June 1870	An improved packing for pistons, piston rods and other rods.
SCANTLEBURY, WILLIAM -	3283	15th Dec. 1870	An improved form or construction of knife or cutter, and in the modes of applying the same for the purpose of cutting, mowing, reaping or shearing and such like purposes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SCHACKLETON, JOSEPH - -	976	2nd April 1870	Utilizing exhaust steam.
SCHAD, LUDWIG - - -	1200	26th April 1870	Treating human excrement.
SCHÄDLER, GEORGE - -	2142	1st Aug. 1870	An improved method of and apparatus for measuring the human body and draughting patterns for coats.
SCHÄFER, FREDERICK - -	1648	7th June 1870	Improved means of protecting shop fronts, windows, doors and other parts of buildings or structures.
SCHEIB, CARL - - - -	1597	2nd June 1870	An improved machine for making cut-nails.
SCHERMERHORN, CORNELIUS -	1185	23rd April 1870	Mode of and apparatus for manufacturing cheese.
SCHERMERHORN, LEVI CHASE	1185	23rd April 1870	Mode of and apparatus for manufacturing cheese.
SCHEUERLE, HENRY - -	1597	2nd June 1870	An improved machine for making cut-nails.
SCHIEBEL, ANGUST - - -	2645	6th Oct. 1870	Electro-dynamic apparatus for keeping off thieves.
SCHLESINGER, SEBASTIEN -	973	2nd April 1870	Improved machinery for making horse-shoe and other nails. (*Patented by William Edward Newton.*)
SCHLESINGER, SEBASTIEN -	1351	11th May 1870	Improved machinery for pointing and finishing nails. (*Patented by William Edward Newton.*)
SCHLESINGER, WILLIAM JAMES	1557	27th May 1870	Producing rotary motion applicable to egg beaters, churns, bottle washers, washing-machines, drills, tools and other instruments. (*Communicated by M. W. Robinson.*)
SCHLESINGER, WILLIAM JAMES	1977	13th July 1870	Machinery or apparatus for washing plates, dishes, crockery and glass ware. (*Communicated by J. L. Simonds.*)
SCHLESINGER, WILLIAM JAMES	2119	28th July 1870	A new or improved apparatus for stretching and nailing carpets, applicable also to other useful purposes. (*Communicated by Sydney Cooke.*)
SCHLICKEYSEN, CARL FRIED-[RICH.	327	4th Feb. 1870	Improved machinery for cutting, dressing or working stone. (*Patented by Henry Edward Newton.*)
SCHLOSS, JOSEPH - - -	1450	19th May 1870	Fastenings applicable to purses and such like articles. (*Communicated by Paul Sormany.*)
SCHMIDT, — - - - - -	1677	9th June 1870	Construction of cabinets, stands or receptacles for sewing machines. (*Patented by Johannes Heinrich Ludwig Theodor Pörtner.*)
SCHMIDT, FREDERICK LOUIS [HUGO.	115	13th Jan. 1870	Breech-loading fire-arms.
SCHNABEL, ADOLPH - -	215	24th Jan. 1870	An improved method of and apparatus for operating railway switches. (*Patented by William Robert Lake.*)
SCHOCH, HENRY - - -	2547	23rd Sept. 1870	A new writing machine available for reporting, corresponding and other similar purposes.
SCHOFIELD, ALFRED - -	3146	1st Dec. 1870	Certain improvements in mechanism or apparatus to be employed for wringing and mangling woven fabrics.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SCHOFIELD, SILAS - - -	3146	1st Dec. 1870	Certain improvements in mechanism or apparatus to be employed for wringing and mangling woven fabrics.
SCHOLEFIELD, RICHARD - -	2002	15th July 1870	Brick-making machinery.
SCHOLFIELD, SOCRATES - -	1727	16th June 1870	Machinery for binding, wrapping and forming cigars. (*Patented by William Edward Newton.*)
SCHOLFIELD, THOMAS ALBERT	2449	10th Sept. 1870	An improved apparatus for ironing and goffering fabrics. (*Communicated by Doctor S. Charles Smith.*)
SCHÖNHERR, LOUIS - - -	2693	12th Oct. 1870	Dressing or sizing warp threads or yarns of wool, cotton and other fibrous materials. (*Patented by Edward Thomas Hughes.*)
SCHORLEMMER, CARL - -	216	24th Jan. 1870	Preparing coloring matters.
SCHOTT, GUSTAVUS ADOLPHUS [JOHN.	1076	12th April 1870	Improvements in the manufacture of yarns or threads and in apparatus to be used therein.
SCHÜCK, GEORGE - - -	1523	26th May 1870	An improved machine for watering and sweeping streets. (*Communicated by Mr. I. Wetzlar.*)
SCHÜTTE, LOUIS CARL WIL- [HELM.	42	5th Jan. 1870	Sugar cane mills.
SCHWARTZ, PHILIP - - -	2090	25th July 1870	Means or apparatus for facilitating the preparation of the uppers of boots and shoes. (*Communicated by Monsieur Giessner.*)
SCONCIA, GIOVANNI - -	1987	14th July 1870	Machinery or apparatus for reducing wood, metal or other hard material to fixed patterns. (*Communicated by Frederick Baldwin.*)
SCOTT, ADAM - - - - -	596	1st March 1870	Subdividing particles of water and other fluids and employing the same to sanitary and other purposes.
SCOTT, BERTIE CHARLES -	2086	23rd July 1870	Rotary engines.
SCOTT, GEORGE - - -	1883	2nd July 1870	Improvements in means or apparatus for measuring the flow or passage of liquids, which improvements are also applicable to obtaining motive-power.
SCOTT, HENRY YOUNG DARRA- [COTT.	1204	26th April 1870	An improved mode of manufacturing cement.
SCOTT, HENRY YOUNG DARRA- [COTT.	1205	26th April 1870	Manufacture of mortar and concrete, and of bricks or blocks for building purposes.
SCOTT, HENRY YOUNG DARRA- [COTT.	3028	18th Nov. 1870	Improved machinery or apparatus for mixing or compounding selenitic mortar, concrete and other cementitious substances or preparations.
SCOTT, HENRY YOUNG DARRA- [COTT.	3169	2nd Dec. 1870	Improvements in the treatment of sewage and in the preparation of materials to be used for its purification.
SCOTT, HENRY YOUNG DARRA- [COTT.	3346	21st Dec. 1870	Manufacture of cement and mortar.
SCOTT, JOHN - - - - -	3293	16th Dec. 1870	Machinery or apparatus for combing wool or other fibrous substances.
SCOTT, ROBERT - - -	944	31st March 1870	Treatment of mineral oils.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Scott, Robert Anthony Edwards.	647	4th March 1870	Improvements in the mounting, working and pointing of guns, and in the construction of the carriages upon which they are mounted.
Scott, Robert John - -	1966	12th July 1870	New or improved apparatus for preventing priming in steam-boilers.
Scott, William Bonham -	221	25th Jan. 1870	Method of applying anti-friction rollers to wheels and other parts of machinery. (*Patented by John Henry Johnson.*)
Scott, William Middleditch.	452	16th Feb. 1870	Breech-loading fire-arms.
Scribner, George William	1722	16th June 1870	Harmoniums and other reed instruments of music. (*Patented by Edwin C. Rolls.*)
Sedley, Angelo - - -	3342	21st Dec. 1870	An improved wheel for traction engines.
Seeley, Charles Augustus -	2943	8th Nov. 1870	An improved process for extracting the useful substance of hops and for manufacturing a pure and concentrated extract of hops. (*Patented by William Edward Newton.*)
Ségard, Alphonse - -	1608	3rd June 1870	Improvements in and applicable to knitting machines.
Seitz, Carl Dietrich Julius	3148	1st Dec. 1870	Improved method of treating wood and other similar fibrous substances for the manufacture of half-stuff and paper.
Sellar, Robert - - -	2026	19th July 1870	Construction of double furrow ploughs.
Sellars, John Carrington -	2609	1st Oct. 1870	Metal founders' blacking.
Sellers, Alfred Hardy -	238	26th Jan. 1870	Construction of axle-boxes for railway, tramway and other similar engines, carriages and trucks, and an improved method of lubricating the axles in such boxes.
Sellers, John - - -	323	4th Feb. 1870	An improved machine or apparatus for effecting calculations, applicable to weights, measures, time and money.
Sellers, Jonathan - -	933	31st March 1870	Improvements in machinery for turning, shaping, cutting and boring wood and other substances, and in machinery for preparing cutters or tools for turning.
Sellers, Jonathan - -	1543	27th May 1870	Mileage indicators for cabs and other vehicles.
Selwyn, Jasper Henry -	2798	24th Oct. 1870	Entrenching or digging tools.
Semple, William Finley -	1487	23rd May 1870	Improved machinery for grinding hand saws. (*Patented by William Edward Newton.*)
Servante, David, jun^{r}. - -	170	19th Jan. 1870	Printing machinery.
Settle, John - - -	1922	7th July 1870	Apparatus for cleaning the fluted and top rollers of machines used in preparing and spinning cotton and other fibrous substances.
Sewall, Samuel E. - -	3378	27th Dec. 1870	An improved mode of and composition for preserving fruit. (*Patented by George Haseltine.*)
Seyd, Ernest - - -	2391	2nd Sept. 1870	Covering and preserving of medical and other plasters. (*Communicated by Dr. Benjamin Brandreth.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SHACKLETON, BENJAMIN -	1805	25th June 1870	Machinery or apparatus for manufacturing "spool" or paper tubes for use in spinning machinery. (*Communicated by Joseph Geiger and Aloyse Geiger.*)
SHACKLETON, JAMES - -	1805	25th June 1870	Machinery or apparatus for manufacturing "spool" or paper tubes for use in spinning machinery. (*Communicated by Joseph Geiger and Aloyse Geiger.*)
SHACKLETON, JOSEPH - -	1027	7th April 1870	Apparatus for heating or warming rooms.
SHAND, GEORGE - - -	50	6th Jan. 1870	Obtaining products from mineral and vegetable tars, and from certain of their distillates and residues.
SHAND, JAMES - - -	2684	11th Oct. 1870	Single-cylinder steam or other motive-power engines.
SHANKS, JAMES - - -	1517	25th May 1870	Wheels for traction steam-engines and other heavy vehicles.
SHANKS, JOHN - - -	1888	4th July 1870	Apparatus for discharging water and air from steam pipes and apparatus.
SHANN, WILLIAM - - -	312	3rd Feb. 1870	Machinery for breaking hemp, flax, jute or other similar material.
SHANNON, JAMES - - -	2992	15th Nov. 1870	Improved means for raising and lowering turrets in ships or vessels of war.
SHARROCKS, JAMES - -	1011	6th April 1870	Improvements applicable to winding engines for the prevention of winding over the headstocks, also applicable to other stationary engines where the weight is taken off suddenly.
SHAW, CHARLES THOMAS -	3109	26th Nov. 1870	Bracelets.
SHAW, HENRY - - -	1175	22nd April 1870	Machinery for hulling cotton seeds and separating their kernels from the hulls and fibres.
SHAW, JACK - - - -	2548	23rd Sept. 1870	Machinery for drawing, spinning and twisting flax, tow, wool, worsted, silk, cotton, china-grass or other fibrous substances.
SHAW, JACK - - - -	2814	26th Oct. 1870	Machinery for drawing, spinning and twisting flax, tow, wool, worsted, silk, cotton, china grass or other fibrous substances.
SHAW, ROBERT - - -	3121	29th Nov. 1870	Machinery or apparatus for felting or planking hat bodies or other articles made of felt.
SHAW, THOMAS RAMSDEN -	3198	6th Dec. 1870	Lubricators.
SHAW, WILLIAM THOMAS -	338	5th Feb. 1870	Machinery or apparatus for preparing lard.
SHEARD, GEORGE - - -	1651	8th June 1870	Steam-boilers' and other furnaces' fire-bars and flues.
SHEDLOCK, JAMES JOHN -	2281	18th Aug. 1870	Treating and purifying animal and vegetable fats and oils, and in apparatus connected therewith.
SHELDON, EDWARD PATTISON	1103	14th April 1870	Improvements in water meters and in apparatus for boring cylinders.
SHELMERDINE, SAMUEL - -	1089	12th April 1870	Improvements in machinery or apparatus for felting or "planking" the bodies of hats or other coverings for the head, which improvements are also applicable to other felting purposes.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SHEPARD, CHARLES U., junior	872	24th Jan. 1870	Preparation of ammoniated sulphuric acid for the manufacture of manure. (*Patented by William Robert Lake.*)
SHEPARD, RICHARD - -	3140	30th Nov. 1870	Looms for weaving.
SHEPPARD, JAMES THOMAS -	1166	21st April 1870	Machinery for cutting heel and sole pieces or other forms of leather.
SHERMAN, JOHN EDWIN -	2092	25th July 1870	Production of iron and steel.
SHERWOOD, ANTHONY - -	389	10th Feb. 1870	Machinery or apparatus for pressing spent hops, grains, beetroot or other substances used in the processes of brewing and distilling, to extract liquor or moisture therefrom.
SHIELD, HENRY - - -	3250	12th Dec. 1870	Treating lichens or moss in order to obtain sugar or saccharine matter and spirit therefrom. (*Patented by John Clayton Mewburn.*)
SHIELLS, ROBERT THORNTON -	2064	21st July 1870	Preserving vegetable matter.
SHUTTLEWORTH, JOSEPH -	3371	24th Dec. 1870	Travelling wheels for road locomotives.
SIBLEY, JOHN JAY - - -	3065	23rd Nov. 1870	Improvements in brushes and in machinery for manufacturing the same. (*Patented by Alfred Vincent Newton.*)
SIBUT, PIERRE MICHEL, senior	1553	27th May 1870	A new or improved system of grooves for rolling and shaping iron or other metals. (*Patented by William Edward Gedge.*)
SICKELS, GERARD - - -	882	25th March 1870	Valves. (*Patented by Bristow Hunt.*)
SIDDALL, BENJAMIN - -	2613	1st Oct. 1870	"Steamers" or cylinders employed in conjunction with cloth mills and gigs.
SIDDALL, JOSEPH - - -	2613	1st Oct. 1870	"Steamers" or cylinders employed in conjunction with cloth mills and gigs.
SIDDONS, JESSE - - -	727	11th March 1870	Clocks.
SIEBE, HENRY - - -	638	4th March 1870	Diving dresses.
SIEMENS, FREDERICK - -	1513	25th May 1870	Improvements in regenerative gas furnaces and apparatus connected therewith, for the manufacture of glass, also partly applicable to regenerative gas furnaces generally. (*Patented by Charles William Siemens.*)
SIEMENS, CHARLES WILLIAM	34	5th Jan. 1870	Regenerative hot blast stoves for heating air, steam and other gases.
SIEMENS, CHARLES WILLIAM -	594	28th Feb. 1870	Improvements in treating iron ores and in processes and apparatuses for the production of cast steel where such ores are employed.
SIEMENS, CHARLES WILLIAM -	1513	25th May 1870	Improvements in regenerative gas furnaces and apparatus connected therewith, for the manufacture of glass, also partly applicable to regenerative gas furnaces generally. (*Partly communicated by Frederick Siemens.*)
SIEMENS, CHARLES WILLIAM -	3134	30th Nov. 1870	Improvements in calcining and reducing iron ores and in furnaces or kilns employed in connection therewith, which improvements are applicable chiefly to the production of cast steel.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Siemens, Charles William -	3255	12th Dec. 1870	Means for exhausting or charging receivers, principally applicable for working pneumatic tubes, for raising fluids and for exhausting steam in steam-engines, including particular arrangements of apparatus for carrying out these several objects.
Siemssen, Gustav - - -	961	2nd April 1870	The application of a new material to the production of illuminating oils and solid hydrocarbons, suitable for the manufacture of candles and for other purposes.
Silas, Ferdinand - - -	301	2nd Feb. 1870	Application of inextinguishable signal lights for marine and other purposes. (*Patented by Nathaniel John Holmes.*)
Silber, Albert Marcius -	1467	20th May 1870	Apparatus for lighting and heating purposes.
Silber, Albert Marcius -	2331	24th Aug. 1870	Apparatus for lighting and heating purposes.
Silber, Albert Marcius -	2872	1st Nov. 1870	Apparatus for lighting.
Silber, Albert Marcius -	2963	10th Nov. 1870	Improvements in lamps, especially applicable to railway lamps.
Silber, Albert Marcius -	3318	19th Dec. 1870	Improvements in lamps, especially applicable to railway and street lamps.
Silber, Albert Marcius -	3325	20th Dec. 1870	Apparatus for lighting and heating purposes.
Silber, Martin Marceus -	1179	22nd April 1870	An improved moderator lamp for burning petroleum and other mineral oils.
Silberberg, Louis - -	730	11th March 1870	Manufacture of cigars, cheroots and other analogous articles.
Silcock, William - - -	2429	8th Sept. 1870	An improved screen-wire for dressing wheat and other grain, which web is also applicable to dressing sieves generally and for the floors of malt and other drying kilns.
Sills, Jabez Joseph Mar-[riott.	2063	21st July 1870	An improved combined portable water-closet, night commode and chamber pail.
Silverstone, Abraham -	2480	14th Sept. 1870	Manufacture of hats, bonnets and other like coverings for the head.
Sim, Duncan - - - - -	226	25th Jan. 1870	An improved apparatus for feeding steam-boilers with water. (*Patented by Robert Adam Whytlaw.*)
Sim, William Hastings -	2282	18th Aug. 1870	Improvements in rifled small arms and ordnance, in tools or apparatus for rifling the same, and in projectiles for the said ordnance.
Simey, Charles Ross - -	1380	14th May 1870	Stuffing boxes.
Simkins, Samuel - - -	2455	10th Sept. 1870	Improvements in the handles of sad irons or smoothing irons, stew pans, saucepans, frying pans and other articles of hollow ware, and in connecting the said handles to the said articles respectively.
Simmonds, Thomas Henry -	2956	10th Nov. 1870	An improvement in boxes for containing furs.
Simmons, Thomas - -	3071	24th Nov. 1870	Filters. (*Patented by Charles Mendel Joseph.*)
Simonds, J. L. - - -	1977	13th July 1870	Machinery or apparatus for washing plates, dishes, crockery and glass-ware. (*Patented by William James Schlesinger.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Simonds, John Caboune -	2366	29th Aug. 1870	Apparatus for pressing or extracting oil from seeds.
Simonin, Charles F. A. -	1219	27th April 1870	An improved process for cleaning wool or hair. (*Patented by William Robert Lake.*)
Simons, William - - -	181	20th Jan. 1870	Plant or apparatus used for dredging purposes.
Simpson, George - - -	1471	21st May 1870	Machinery and arrangements for cutting or getting minerals.
Simpson, Henry - - -	3384	28th Dec. 1870	Construction of cheese presses.
Simpson, William - -	1098	14th April 1870	Construction of engines worked by steam or other motive-power.
Simpson, William - -	3209	6th Dec. 1870	Lamps.
Sinclair, James - - -	1800	24th June 1870	Respiratory apparatus.
Sinclair, Robert - - -	1153	20th April 1870	Apparatus to promote circulation in locomotive steam-boilers. (*Communicated by William Blane Mack.*)
Sinclair, Robert - - -	3129	29th Nov. 1870	Apparatus for injecting or otherwise propelling liquids.
Singer, Isaac Merritt -	1390	14th May 1870	Shirts. (*Patented by Bristow Hunt.*)
Sinton, William - - -	121	14th Jan. 1870	Churns.
Skertchly, Joseph - -	223	25th Jan. 1870	Improvements in the manufacture of tablets, facias, signs and similar articles, and in the means of producing names, numerals, inscriptions and devices for ornament, advertisement, illumination and other similar purposes.
Sketchly, William - -	1236	30th April 1870	Screw propellers.
Skey, George - - -	836	21st March 1870	An improved sieve for gas-purifiers and scrubbers.
Skinner, Philip Kearney [Macgregor, C.B.	566	25th Feb. 1870	Improvements in propelling vessels and in apparatus for the same.
Slack, Elijah - - -	3273	14th Dec. 1870	Improved compositions for sizing, dressing and finishing threads, yarns, textile fabrics and paper.
Slater, James - - -	2882	2nd Nov. 1870	Wheels of vehicles to run on common roads.
Sleigh, Francis - - -	198	22nd Jan. 1870	Imparting elasticity and strength to chain cables of ships or to any other description of chain.
Sleigh, William Henry -	155	19th Jan. 1870	Certain improvements in apparatus to be employed for sharpening scissors, knives or other similar edged tools.
Slingerland, John Ten [Eyck.	725	11th March 1870	Certain new and useful improvements in machines for setting types. (*Patented by Henri Adrien Bonneville.*)
Sloggett, Thomas Chubb -	148	18th Jan. 1870	An improved process and solution for preserving meat and other perishable substances.
Sloper, Bevan George -	1706	14th June 1870	Treatment of sewage.
Small, William Thomas -	1565	28th May 1870	Method or methods of supply and exit of water and other fluids, respectively to and from aquariums, tanks, cisterns and other like vessels, and in the apparatus connected therewith.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SMART, JAMES - - -	411	11th Feb. 1870	Slide valves.
SMITH, CHARLES SHALER -	2765	20th Oct. 1870	Construction of bridges. (*Patented by John Henry Johnson.*)
SMITH, DILLWYN - - -	1406	16th May 1870	Improvements in furnaces and in apparatus connected therewith.
SMITH, EDWARD COZENS -	979	2nd April 1870	Improvements in velocipedes, parts of which improvements are applicable to machinery generally.
SMITH, EDWIN - - -	1348	11th May 1870	Locking or securing nuts for screw bolts employed for railway or other purposes.
SMITH, FREDERICK HENRY -	2765	20th Oct. 1870	Construction of bridges. (*Patented by John Henry Johnson.*)
SMITH, GEORGE - - -	3349	22nd Dec. 1870	Bedsteads for invalids. (*Patented by William Spence.*)
SMITH, GEORGE BOND - -	1465	20th May 1870	Securing the nuts of the screw bolts used in fish jointing the rails of railways.
SMITH, GEORGE HENRY - -	2983	14th Nov. 1870	Sewing-machines.
SMITH, JAMES HENRY - -	2694	12th Oct. 1870	Sewing-machines.
SMITH, JOHN - - - -	129	15th Jan. 1870	Machinery or apparatus for cutting wood into shreds or shavings to be used in the manufacture of paper.
SMITH, JOHN - - - -	2321	23rd Aug. 1870	Machinery or apparatus for cutting wood into shreds or shavings to be used in the manufacture of paper.
SMITH, JOHN BEVAN - -	248	27th Jan. 1870	Improvements in permanent way and in wheels to be used therewith. (*Communicated by Alphonse Mention.*)
SMITH, JOHN Y. - - -	1904	5th July 1870	Mechanical appliances and furnaces and a process employed therewith, for separating and reducing iron or iron ores, and for other metallurgical operations. (*Patented by William Robert Lake.*)
SMITH, JOSEPH - - -	14	3rd Jan. 1870	Sickles and wires connected with mules for spinning.
SMITH, JOSEPH - - -	1798	24th June 1870	Machinery or apparatus for spinning and twisting or doubling fibrous substances.
SMITH, MATTHIAS - - -	2732	17th Oct. 1870	Raising and registering the measurements of wine, spirits and other fluids, by means of the self-registering fluid engine.
SMITH, PEARSON - - -	1224	28th April 1870	Machinery or apparatus for preparing wool or other fibrous substances for combing.
SMITH, ROBERT - - -	899	28th March 1870	Machinery for doubling and winding cotton and other yarns and threads.
SMITH, ROBERT - - -	1187	23rd April 1870	Machinery for plaiting or folding tapes and other narrow fabrics.
SMITH, DOCTOR S. CHARLES -	2449	10th Sept. 1870	An improved apparatus for ironing and goffering fabrics. (*Patented by Frederick Mills and Thomas Albert Scholfield.*)
SMITH, SYDNEY - - -	3304	17th Dec. 1870	Cocks and valves.
SMITH, THOMAS - - -	992	5th April 1870	Looms for weaving.
SMITH, THOMAS JAMES - -	188	21st Jan. 1870	A new or improved process for cleansing, drawing and turning wire. (*Communicated by Jean Baptiste Auguste Daubié.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SMITH, THOMAS JAMES - -	330	4th Feb. 1870	Manufacture of chairs and other seats. (*Communicated by Wilhelm Walcker.*)
SMITH, THOMAS JAMES - -	382	9th Feb. 1870	Improved means or apparatus for controlling and guiding the movements of torpedo boats, rams and other similar vessels. (*Communicated by John Archibald Ballard.*)
SMITH, THOMAS JAMES - -	508	21st Feb. 1870	Clips or shears for clipping or shearing horses and other animals, which are also applicable for other purposes. (*Communicated by Auguste Lengelée, Leon Bouttier and Charles Vincent.*)
SMITH, THOMAS JAMES - -	800	17th March 1870	Apparatus for holding postage and other stamps for office and general uses. (*Communicated by G. Cliffe Hatch.*)
SMITH, THOMAS JAMES - -	849	22nd March 1870	Improved processes for the treatment of ores in order to extract copper therefrom. (*Communicated by the Company or Society, Cyprien Marie Tessié du Motay and Company.*)
SMITH, THOMAS JAMES - -	876	25th March 1870	A new or improved docimastic process and methods for the treatment of the simple sulphurets, the complex sulphurets and the arsenio-sylphurets of lead, antimony, copper and iron, as well as coppery matts and coppers containing precious metals, in order to extract silver and gold therefrom. (*Communicated by Cyprien Marie Tessié du Motay.*)
SMITH, THOMAS JAMES - -	891	26th March 1870	Improved means and apparatus for regulating the driving of millstones. (*Communicated by William Charlton Harrison.*)
SMITH, THOMAS JAMES - -	932	30th March 1870	Machines for reaping and mowing. (*Communicated by Cyrus Hall McCormick.*)
SMITH, THOMAS JAMES - -	1061	11th April 1870	Treating excremental matters. (*Communicated by Cyprien Marie Tessié du Motay.*)
SMITH, THOMAS JAMES - -	1462	20th May 1870	An improved arrangement of apparatus for diminishing the friction of spindles, axles and other similar rotating bodies. (*Communicated by Ernest Maxime Theodore Cayeux.*)
SMITH, THOMAS JAMES - -	1746	17th June 1870	Producing caustic soda and caustic potash. (*Communicated by Cyprien Marie Tessié du Motay.*)
SMITH, THOMAS JAMES - -	1750	18th June 1870	Improvements in treating copper pyrites and in apparatus therefor. (*Communicated by Cyprien Marie Tessié du Motay.*)
SMITH, THOMAS JAMES - -	2953	9th Nov. 1870	Improvements in sewing-machines and in tables for sewing-machines. (*Communicated by John Niel Tarbox.*)
SMITH, THOMAS JAMES - -	3260	13th Dec. 1870	Wire bands or fasteners for bales or parcels. (*Communicated by Edwin Sewall Lenox.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Smith, Thomas William -	2918	4th Nov. 1870	An improved method of tapping barrels, casks and other vessels in which taps or cocks are used to draw off the liquid contents thereof.
Smith, William - - -	448	16th Feb. 1870	Certain improvements in looms for weaving.
Smith, William - - -	971	2nd April 1870	Apparatus for working and locking railway switches and signals.
Smith, William - - -	1150	20th April 1870	Certain improvements in looms for weaving.
Smith, William Bickford -	1735	17th June 1870	An improved coating for safety fuses used in mining.
Smith, William Henry -	863	24th March 1870	Improvements in the treatment of hides and skins, in tanning and otherwise utilizing all portions or pieces thereof, and in the treatment of goods already tanned.
Smithies, James - - -	1443	19th May 1870	Manufacture of woven fabrics.
Smithies, John - - -	1443	19th May 1870	Manufacture of woven fabrics.
Smyth, James Stewart -	2989	15th Nov. 1870	Tents.
Smyth, James Stewart -	3265	13th Dec. 1870	Means of effecting communications by means of a code or codes of signals between different points either at sea or on land, or between vessels at sea and points on land.
Snaydon, William - -	335	5th Feb. 1870	Brakes for two-wheel carriages.
Snaydon, William - -	2482	15th Sept. 1870	Apparatus applicable to the brakes and other parts of two-wheeled carriages.
Sneider, Charles Edward -	1829	27th June 1870	Improvements in breech-loading fire-arms and in cartridges for the same. (*Patented by William Robert Lake.*)
Sneider, Charles Edward -	3376	24th Dec. 1870	Improvements in breech-loading fire-arms and in cartridges for the same. (*Patented by William Robert Lake.*)
Söderström, Lars Albert [Leonard.	1352	11th May. 1870	Construction of and methods of working gas engines. (*Patented by Edward Primerose Howard Vaughan.*)
Söderström, Lars Albert [Leonard.	2959	10th Nov. 1870	Improvements in the construction of and in the methods of working gas-engines. (*Patented by Edward Primerose Howard Vaughan.*)
Solomons, Samuel - -	2480	14th Sept. 1870	Manufacture of hats, bonnets and other like coverings for the head.
Somervell, John - - -	2987	15th Nov. 1870	An improved means of rendering casks and other vessels air and water tight.
Somerville, John - -	2915	4th Nov. 1870	Improvements in pipes and in the means of connecting them together.
Sörensem, Soren - - -	728	11th March 1870	Manufacture of artificial leather. (*Patented by Peter Christian Thamsen.*)
Sormany, Paul - - -	1450	19th May 1870	Fastenings applicable to purses and such like articles. (*Patented by Joseph Schloss.*)
Southall, Charles Henry -	3048	21st Nov. 1870	Self-acting machinery for making and finishing boots and shoes.
Southall, James - - -	329	4th Feb. 1870	An improved mode of cutting leather for the soles and heels of boots and shoes.
Southby, Anthony Gapper -	2117	28th July 1870	Apparatus for cooking by gas.
Southby, Anthony Gapper -	2789	22nd Oct. 1870	Hollow rolls or cylinders attached to spindles.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SOUTHBY, EDMUND RICHARD -	795	17th March 1870	Improvements in. distilling crude mineral oils and in apparatus therefor.
SOUTHBY, EDMUND RICHARD -	2435	8th Sept. 1870	Improvements in distilling mineral oils and in apparatus therefor.
SOUTHMAYD, JOHN - -	1661	8th June 1870	Woven and knitted fabrics and yarns. (*Patented by George Tomlinson Bousfield.*)
SOUTHWELL, FREDERICK [CHARLES.	189	21st Jan. 1870	Chaff cutters.
SOWDEN, DAVID - - -	1140	19th April 1870	Machinery or apparatus for boring, drilling and turning wood or metal.
SPARAGNAPANÉ. GAUDENTE -	2082	23rd July 1870	Means of dyeing or coloring articles.
SPARRE, AMBJORN PIERRE, [COUNT.	1940	8th July 1870	Breech-loading fire-arms.
SPARRE, COUNT PETER AMB- [JORN.	2644	5th Oct. 1870	New improved mechanism for weaving without cards, which mechanism is applicable to all looms. (*Patented by Hunter Henry Murdock.*)
SPARTALI, NICHOLAS DEME- [TRIUS.	2224	10th Aug. 1870	Apparatus for compressing air and raising and forcing fluids.
SPEARING, JOHN BENNETT -	2484	15th Sept. 1870	Spittoons for the seats of railway carriages and for other seats.
SPEIGHT, GEORGE - - -	1782	22nd June 1870	An improved glue pot.
SPEIGHT, GEORGE - - -	2268	16th Aug. 1870	Treating glue.
SPEIGHT, JOHN - - -	1319	9th May 1870	Machinery or apparatus for spinning, twisting and roving worsted or other fibrous substances.
SPENCE, GEORGE - - -	2462	12th Sept. 1870	Apparatus suitable for scouring, washing, bleaching, dyeing and drying fibrous materials in the raw and manufactured state and for like purposes.
SPENCE, JOHN BERGER - -	2478	14th Sept. 1870	Manufacture of alum.
SPENCE, JOHN BERGER - -	2864	31st Oct. 1870	Preparation of manures from tribasic phosphates.
SPENCE, PETER - - -	1186	23rd April 1870	Production of prussiate of potash, prussiate of soda and prussian blue.
SPENCE, PETER - - -	1676	9th June 1870	Improvements in the manufacture of alum and in obtaining by products in such manufacture applicable to certain useful purposes.
SPENCE, PETER - - -	1949	9th July 1870	Improvements in the treatment of sewage and in obtaining manures or fertilizing substances therefrom.
SPENCE, PETER - - -	2823	27th Oct. 1870	Improvements in the manufacture of sulphuric acid and in apparatus connected therewith.
SPENCE, PETER - - -	3208	6th Dec. 1870	Manufacture of prussiate of potash and prussian blue.
SPENCE, WILLIAM - - -	417	12th Feb. 1870	Machines for polishing yarns or threads. (*Communicated by Sixte Pierre Villain.*)
SPENCE, WILLIAM - - -	1063	13th April 1870	Machines for shaping staves for casks and barrels. (*Communicated by Albert Taubert.*)
SPENCE, WILLIAM - - -	1128	18th April 1870	Manufacture of hats. (*Communicated by Elie Adolphe Crespin.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SPENCE, WILLIAM - - -	1786	23rd June 1870	Construction of boxes or cases for containing eggs, glass, crockery, or other articles requiring to be packed separately. (*Communicated by James McCree.*)
SPENCE, WILLIAM - - -	1853	29th June 1870	Copying presses. (*Communicated by John Fensom.*)
SPENCE, WILLIAM - - -	1983	14th July 1870	Steam generators. (*Communicated by Augustin Pierre Joseph Renneson.*)
SPENCE, WILLIAM - - -	3349	22nd Dec. 1870	Bedsteads for invalids. (*Communicated by George Smith.*)
SPENCER, ADAM - - -	2910	4th Nov. 1870	Manufacture of rails.
SPENCER, GEORGE - - -	1097	14th April 1870	Improved methods of forming patterns on the surface of kamptulicon or other similar substances used for floor coverings and mats.
SPENCER, JOHN FREDERICK -	1131	19th April 1870	Steam-engines.
SPENCER, JOHN HENRY - -	2999	16th Nov. 1870	An improved apparatus for a deodoriser for water-closets.
SPENCER, PETER WILLIAM -	767	15th March 1870	Limekilns and similar kilns.
SPENCER, ROBERT - - -	2668	8th Oct. 1870	A continuous process for treating the ores of metals, and the apparatus and mechanical appliances used therein. (*Patented by William Edward Newton.*)
SPENCER, ROBERT - - -	2743	18th Oct. 1870	Improvements in saddle cloths and horse clothing and blankets, and in ponchos or other coverings for man and beast. (*Patented by William Edward Newton.*)
SPENCER, ROBERT - - -	3404	31st Dec. 1870	Improvements in the manufacture of felted fabrics and in the machinery or apparatus employed therein. (*Patented by William Edward Newton.*)
SPENCER, SAMUEL - - -	117	13th Jan. 1870	Steam-boiler and other furnaces.
SPENCER, SAMUEL - - -	3264	13th Dec. 1870	Treatment of beer, ale and other liquids in order to fine and preserve them.
SPENDELOW, HENRY - -	1969	12th July 1870	Improvements in drying malt, grain and other substances, and in the apparatus therefor. (*Patented by Nicholas Constantine Maximos.*)
SPILL, DANIEL - - -	180	20th Jan. 1870	Treatment of xyloidine to be employed for purposes useful in the arts.
SPILL, DANIEL - - -	787	16th March 1870	Production of compounds containing xyloidine.
SPILL, DANIEL - - -	1017	6th April 1870	Improvements in the manufacture of non-explosive compounds forming the material for the manufacture of collodion and other substances, and in apparatus therefor.
SPILL, DANIEL - - -	1626	4th June 1870	Compounds for insulating telegraph wires, the manufacture of flexible tubing and other like purposes.
SPILL, DANIEL, junior - -	2649	6th Oct. 1870	Apparatus for the manufacture of compounds of collodion.
SPILLER, JOEL - - -	2013	16th July 1870	Improvements on and application of certain machinery to the process of manufacturing flour from wheat.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
SPIRLET, ALBERT - - -	2107	27th July 1870	Improvements in revolvers and revolving fire-arms, and in apparatus to be used therewith. (*Patented by John Piddington.*)
SPONG, JAMES OSBORN - -	3103	26th Nov. 1870	Means or apparatus for cleansing and polishing forks and spoons.
SPRAGUE, WILLIAM - -	321	3rd Feb. 1870	Machines for mowing grass. (*Patented by William Robert Lake.*)
SPRATT, JAMES - - -	2160	3rd Aug. 1870	An improved mixture and preparation of coffee and tea.
STAFFORD, WILLIAM COOKSON	410	11th Feb. 1870	Construction of clearers applicable to machinery used in the preparation of cotton and other fibrous materials.
STALVIES, JOHN - - -	2730	17th Oct. 1870	Gas stoves for heating and warming rooms and for other like purposes.
STANBRIDGE, SIDNEY WILLIAM	1249	2nd May 1870	Preparation of malt for brewing, colouring, flavouring and keeping ales and other fermented liquors.
STANFIELD, JOHN EDWARD -	255	28th Jan. 1870	Construction of fourwheeled carriages.
STANDISH, JOHN - - -	2230	11th Aug. 1870	Certain improvements in machinery for preparing cotton and other fibrous substances.
STANELLI, Dr CARL HEINRICH [RUDOLF.	1906	6th July 1870	Improvements in soldiers' litters and in trucks or ambulances connected therewith. (*Patented by Alexander Prince.*)
STANLEY, JOHN MARTIN -	387	9th Feb. 1870	Improvements in fire-places for generating steam and in other furnaces where great heat is required.
STANLEY, WILLIAM FORD -	2264	15th Aug. 1870	Construction of true surfaces and edges applicable to drawing purposes.
STAPELTON, JOSIAH GLODE -	2661	7th Oct. 1870	Manufacture of tobacco pipes.
STAPFER, HEINRICH - -	2595	30th Sept. 1870	A new manufacture of concentrated and preserved potatoes and other vegetables.
STARKEY, HENRY - - -	3221	8th Dec. 1870	Soap cutting machines.
STARLEY, JAMES - - -	1430	18th May 1870	An improvement in sewing-machines.
STARLEY, JAMES - - -	2236	11th Aug. 1870	Improvements in the construction of wheels applicable chiefly to velocipedes and in the driving gear for such vehicles.
STARLING, JAMES HENRY -	3168	2nd Dec. 1870	Window, door and table fasteners.
STARNES, JOHN SAMPSON -	1510	25th May 1870	A new or improved ventilator for the cabins, holds and compartments of ships, and the chambers and apartments of buildings.
STATHER, THOMAS - - -	1189	23rd April 1870	Improvements in mills for grinding cattle food and other materials, and in apparatus connected therewith.
STEAD, EBER - - - -	985	4th April 1870	Improvements in or applicable to machinery for spinning mottled yarn.
STEANE, SAMUEL EDWARD [TYRRELL.	1518	25th May 1870	Domestic fire-escapes.
STEART, JAMES - - -	1439	19th May 1870	Cleansing ships' bottoms.
STELL, MICHAEL - - -	334	5th Feb. 1870	Improvements in machinery or apparatus for spinning, twisting or doubling worsted or other fibrous substances, and in means for preparing part of such apparatus.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
STELL, MICHAEL - - -	3184	3rd Dec. 1870	Improvements in machinery or apparatus for spinning, twisting or doubling worsted, woollen, cotton, silk or other fibrous substances, and in means for preparing part of such apparatus.
STENGER, JOHANN - - -	1926	7th July 1870	Manufacture of pots or crucibles used in glass furnaces. (*Patented by Carl Holste.*)
STEPHENS, CHARLES - -	1795	24th June 1870	Boot trees.
STEPHENS, CHARLES - -	2216	10th Aug. 1870	Machinery or apparatus for obtaining and applying motive-power from the rise and fall of the tides.
STEPHENS, CHARLES - -	2459	12th Sept. 1870	Improvements in the construction of fire-bars and for the employment of them for heating the feed for generating steam and for keeping the bars cool.
STEPHENS, JOHN - - -	2778	21st Oct. 1870	Apparatus for heating liquids and for producing a constant circulation of the same therein.
STEPHENS, SAMUEL HENRY -	1561	28th May 1870	Machines for grinding, concentrating and refining tin and other ores, in order to extract the metals in a pure state.
STEPHENS, THOMAS - -	2216	10th Aug. 1870	Machinery or apparatus for obtaining and applying motive-power from the rise and fall of the tides.
STEPHENSON, REUBEN CALVERT.	1140	19th April 1870	Machinery or apparatus for boring, drilling and turning wood or metal.
STERNE, LOUIS - - -	93	12th Jan. 1870	Bolts for securing parts of the permanent way of railways.
STERNE, LOUIS - - -	599	1st March 1870	Construction of wheel tyres.
STERNE, LOUIS - - -	2174	4th Aug. 1870	Apparatus for accumulating hydrostatic pressure.
STERNE, LOUIS - - -	2620	1st Oct. 1870	Means of securing elastic tyres to wheels.
STERRY, ARTHUR CHARLES -	2875	1st Nov. 1870	Purifying hydrocarbon and rosin oils.
STERRY, JOHN - - -	2875	1st Nov. 1870	Purifying hydrocarbon and rosin oils.
STETEFELDT, CHARLES - -	1857	30th June 1870	An improved process and apparatus for chlorinating gold, silver and copper ores. (*Patented by William Robert Lake.*)
STEVENS, EBENEZER - -	658	5th March 1870	Means and utensils employed with apparatus used in cooking, combining arrangements for burning a light, forming a complete "kitchener."
STEVENS, EBENEZER - -	1875	2nd July 1870	Improvements in machinery or apparatus and vessels for feeding, dusting, stirring, mixing or kneading flour, and heating or boiling water or liquids, for the manufacture of bread, biscuits, cakes, puddings, paste, buns, muffins, crumpits and other articles of food, which improvements are also applicable for beating and mixing, heating or boiling various ingredients or plastic substances, churning or other purposes.
STEVENS, EDWARD - - -	2553	23rd Sept. 1870	Making, refining and purifying an isolating oil applicable to the manufacture of paints and varnishes.
STEVENS, GEORGE - - -	1555	27th May 1870	An electro-magnetic motor for sewing and other machines.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
STEVENS, JAMES JOHN - -	746	14th March 1870	An improved apparatus for working points and signals on railways.
STEVENS, JAMES JOHN FREDERICK.	746	14th March 1870	An improved apparatus for working points and signals on railways.
STEVENS, WARWICK ALAN -	746	14th March 1870	An improved apparatus for working points and signals on railways.
STEVERLYNCK, EDMOND -	1506	24th May 1870	Supporting apparatus for the rollers of spinning frames. (*Patented by William Robert Lake.*)
STEVERLYNCK, LÉON - -	1506	24th May 1870	Supporting apparatus for the rollers of spinning frames. (*Patented by William Robert Lake.*)
STEVERLYNCK-DELECROIX, FLORENTIN AUGUSTIN.	1506	24th May 1870	Supporting apparatus for the rollers of spinning frames. (*Patented by William Robert Lake.*)
STEWART, ALLAN - - -	451	16th Feb. 1870	Railway and other wrappers.
STEWART, ALLAN - - -	2186	5th Aug. 1870	Railway and other wrappers.
STEWART, ANDREW - -	1799	24th June 1870	Improvements in the manufacture of welded iron and steel tubes and in apparatus therefor.
STEWART, ANDREW - -	3360	23rd Dec. 1870	Improvements in the manufacture of welded iron and steel tubes and in apparatus therefor.
STEWART, JAMES - - -	1799	24th June 1870	Improvements in the manufacture of welded iron and steel tubes and in apparatus therefor.
STEWART, JAMES - - -	3360	23rd Dec. 1870	Improvements in the manufacture of welded iron and steel tubes and in apparatus therefor.
STEWART, LAURENCE - -	1095	14th April 1870	Wheels for carriages, wagons, carts and other vehicles.
STEWART, LYMAN - - -	213	22nd Jan. 1870	Mowing and reaping machines. (*Patented by William Robert Lake.*)
STIEFBOLD, ALEXANDER -	929	30th March 1870	Concertinas and accordions. (*Communicated by Reinhard Doerfel.*)
STILES, EDWARD COPELAND -	1884	4th July 1870	Dressing or cutting millstones.
STILL, WILLIAM THORNTON -	1566	28th May 1870	Improvements in machinery for corrugating and moulding sheet metal, which improvements are also applicable for other purposes. (*Patented by Alexander Melville Clark.*)
STILLSON, DANIEL CHAPMAN	1227	28th April 1870	Certain new and useful improvements in pipe wrenches. (*Patented by Charles William Alden.*)
STIMPFL, HUGO - - -	1926	7th July 1870	Manufacture of pots or crucibles used in glass furnaces. (*Patented by Carl Holste.*)
STIRLING, JAMES - - -	828	21st March 1870	Apparatus for working railway brakes.
STOCKBRIDGE, CHARLES -	760	15th March 1870	Collars and saddles for horses and other animals.
STOCKER, ALEXANDER SOUTHWOOD.	1749	18th June 1870	Improvements in bottles and stoppers and other articles to be employed therewith, some of which are applicable to other purposes, and the manufacture thereof.
STOCKS, BENJAMIN - -	823	19th March 1870	Machinery for scouring and shaving hides, skins or leather.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
STOCKS, JAMES STANILAND -	823	19th March 1870	Machinery for scouring and shaving hides, skins or leather.
STODDARD, ARTHUR FRANCIS-	3352	22nd Dec. 1870	Power looms.
STOKES, FREDERICK THOMAS -	2902	3rd Nov. 1870	Metallic bedsteads.
STOLIPINE, ARCADI - -	2451	10th Sept. 1870	An improved apparatus for lighting with Legroine gas (petroleum spirit).
STONE, HENRY HILL - -	2773	21st Oct. 1870	An improvement or improvements in the manufacture of lined or coloured paper bags.
STONE, OCTAVIUS CHAMBER- [LIN.	1671	9th June 1870	Apparatus for governing and controlling steam-engines.
STONER, JOHN BENJAMIN -	2510	17th Sept. 1870	A new or improved suit or dress and fittings for saving life in water.
STONER, JOHN BENJAMIN -	2625	3rd Oct. 1870	A new or improved floating light-house and telegraph and life-boat station.
STORER, JOSEPH - - -	1647	7th June 1870	Fountains.
STORY, JAMES - - -	409	11th Feb. 1870	An improved method of constructing submarine telegraph cables for the support of insulated conductors for communicating intelligence between nations and foreign countries, by electricity.
STOTT, ELI - - - - -	410	11th Feb. 1870	Construction of clearers applicable to machinery used in the preparation of cotton and other fibrous materials.
STOTT, SAMUEL HOWARD -	656	5th March 1870	Improvements in the treatment or preparation of yarns for weaving, and in machinery or apparatus connected therewith.
STOW, JOSEPH WESLEY - -	1154	20th April 1870	Reversible butt hinges. (*Patented by William Robert Lake.*)
STRAIN, JOHN - - -	227	25th Jan. 1870	Pipe joints.
STRANG, JAMES - - -	651	5th March 1870	Dressing, stiffening or finishing and printing textile materials and fabrics and paper.
STRATHERN, ALEXANDER [MORTON.	815	19th March 1870	Improvements in apparatus for getting or cutting minerals, and in apparatus for compressing air.
STRATHERN, ALEXANDER [MORTON.	1125	18th April 1870	Safety apparatus for steam-boilers.
STRATHERN, ALEXANDER [MORTON.	2584	29th Sept. 1870	Machinery for cutting wood and partly applicable to hand braces.
STRAUSS, PHILIPP - - -	2934	7th Nov. 1870	An improved machine for cutting and printing lozenges and crackers. (*Patented by Alexander Melville Clark.*)
STRICKLAND, THOMAS - -	384	9th Feb. 1870	Brakes for carriages.
STROH, JOHN MATTHIAS AU- [GUSTUS.	2897	3rd Nov. 1870	Improvements in fast-speed electro-magnetic telegraphs and in apparatus relating thereto.
STRONG, MYRON HOPKINS -	1335	10th May 1870	Apparatus or machinery for making gas from liquid hydro-carbons, for illuminating purposes. (*Patented by William Robert Lake.*)
STRONG, MYRON HOPKINS -	3061	23rd Nov. 1870	Hydro-carbon lighting apparatus chiefly designed for locomotives and signals. (*Patented by William Robert Lake.*)
STRONG, MYRON HOPKINS -	3062	23rd Nov. 1870	Gas regulating apparatus. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
STROUDLEY, WILLIAM - -	2022	18th July 1870	Weighing-machines.
STRUBIN EMIL ADAM - -	1563	28th May 1870	Cameras for reflecting and magnifying opaque objects. (*Communicated by Theodore Kung and Henry Strubin.*)
STRUBIN, HENRY - - -	1563	28th May 1870	Cameras for reflecting and magnifying opaque objects. (*Patented by Emil Adam Strubin.*)
STUBBS, FRANCIS HENRY -	657	5th March 1870	Apparatus for burning and consuming smoke.
STURGEON, JOHN - - -	715	10th March 1870	Direct-acting power hammers and machinery for crushing and pulverising.
SUMMERSFIELD, ISRAEL - -	970	2nd April 1870	An improved pressing machine for the use of tailors and others.
SUNDERLAND, EDWIN - -	2028	19th July 1870	Manufacture and melting of iron and steel.
SUNDERLAND, EDWIN - -	2841	28th Oct. 1870	Corkscrews. (*Partly communicated by Robert Stothert Kirkpatrick.*)
SUTHERLAND, FREDERICK [DANIEL.	1193	25th April 1870	Travelling bags and portmanteaus.
SUTTON, ROBERT TWISS - -	586	28th Feb. 1870	Apparatus for checking the receipts by money-takers and for recording the number and class of admissions.
SWADDLE, WILLIAM KENMIRE	2380	31st Aug. 1870	Steam-engines.
SWAIN, JOSIAH - - -	1723	16th June 1870	Construction of furnaces for the manufacture of iron and steel.
SWAIN, WILLIAM - - -	399	10th Feb. 1870	A cricketer's battery.
SWEET, SIDNEY - - -	2271	16th Aug. 1870	Improved boat-detaching apparatus. (*Patented by William Edward Newton.*)
SWEET, WILLIAM A. - -	1914	6th July 1870	Furnaces chiefly designed for heating metals and ores. (*Patented by William Robert Lake.*)
SWEETAPPLE, EDWARD - -	3133	30th Nov. 1870	Apparatus employed in the preparation of materials for the manufacture of paper.
SWEETING, FREDERICK JOHN -	1012	6th April 1870	Apparatus for indicating the distance travelled by cabs and other vehicles.
SWEETLAND, WILLIAM FROST	2832	27th Oct. 1870	Apparatus for purifying sewage.
SWINBURN, JOHN - - -	2217	10th Aug. 1870	Means or apparatus for supplying mines and other places with lighting gas.
SWINDELLS, JOHN - - -	295	1st Feb. 1870	Improvements in india-rubber manufactures and in tools or machinery employed therein.
SYCAMORE, JOHN - - -	2179	4th Aug. 1870	Apparatus for preventing smokey chimnies and for ventilation generally.
SYKES, HENRY - - -	653	5th March 1870	Machinery or apparatus for spinning or twisting worsted or other fibrous substances.
SYKES, WILLIAM - - -	2353	27th Aug. 1870	Improvements in tunnelling and in machinery and apparatus therefor. (*Patented by Herbert John Haddan.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Sykes, William Robert -	483	18th Feb. 1870	Hand signal and other lamps.
Symes, George - - -	1144	19th April 1870	Portable apparatus for manufacturing gas.
Symes, George - - -	2591	29th Sept. 1870	Portable apparatus for manufacturing gas.
Symons, Henry Cyrus - -	2944	8th Nov. 1870	Advertising and apparatus connected therewith.

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Taber, John Russell - -	2572	27th Sept. 1870	Machinery for twisting and laying cords and rope. (*Communicated by Howard Perkins.*)
Taft, George Carpenter -	904	28th March 1870	Wrenches. (*Patented by John Henry Johnson.*)
Taft, John - - - - -	3038	21st Nov. 1870	Machinery for preparing and washing wool and other fibrous materials, and for mixing and forming fur or materials for felt hat bodies.
Taglis, Pacific - - -	3331	21st Dec. 1870	Screw drivers and similar instruments or tools.
Talcott, Caleb McKinney -	1405	16th May 1870	Lawn-mowing machines.
Tallis, Frederick - -	1133	19th April 1870	Construction of cocks for gas or for beer or wine, or other liquids or fluids.
Tandy, George Grainger -	63	7th Jan. 1870	Improvements in the preparation of combustible liquids for illuminating purposes, and in lamps for burning such or other combustible liquids.
Tandy, George Grainger -	3246	10th Dec. 1870	Improvements in holders for continuous matches, and in binding materials for making continuous and other matches.
Tanvez, Pierre Mathurin -	1554	27th May 1870	A new or improved plough. (*Patented by William Edward Gedge.*)
Taplin, William Henry -	1615	4th June 1870	An improvement in the manufacture of lasts for the feet.
Tarbox, John Niel - -	2953	9th Nov. 1870	Improvements in sewing-machines and in tables for sewing-machines. (*Patented by Thomas James Smith.*)
Tarr, James Gamage - -	1638	16th June 1870	An improved metallic paint for preventing the corrosion and fouling of ships' bottoms and other surfaces in water. (*Patented by William Robert Lake.*)
Tarr, John Blake - -	2102	26th July 1870	Improvements in the manufacture of railway wheels, also in the moulds and the converting furnaces to be used in the manufacture of railway wheels. (*Patented by Alfred Vincent Newton.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
TASKER, STEPHEN PASCHALL [MORRIS.	3290	15th Dec. 1870	Springs chiefly designed for railway and other carriages. (*Patented by William Robert Lake.*)
TASKER, STEPHEN PASCHALL [MORRIS.	3391	29th Dec. 1870	Machinery for manufacturing metal tubes. (*Patented by William Robert Lake.*)
TASKER, WILLIAM the younger	432	14th Feb. 1870	Machinery for elevating corn, hay, straw and other agricultural produce.
TATRO, JOSEPH ARNO - -	709	10th March 1870	An improved process for converting the whole product arising from the distillation of crude petroleum into a safe burning oil.
TAUBERT, ALBERT - - -	1083	13th April 1870	Machines for shaping staves for casks and barrels. (*Patented by William Spence.*)
TAUNTON, EDMUND WILLIAM [PYLE.	2228	11th Aug. 1870	Pumps for raising and forcing liquids. (*Communicated by George C. Bishop.*)
TAVERNIER, EDOUARD - -	2691	12th Oct. 1870	Improvements in combing and preparing cotton, wool and other fibrous substances, and in engines or machines in connection therewith. (*Patented by Louis Ferdinand Tavernier.*)
TAVERNIER, LOUIS FERDINAND	2691	12th Oct. 1870	Improvements in combing and preparing cotton, wool and other fibrous substances, and in engines or machines in connection therewith. (*Communicated by Edouard Tavernier.*)
TAYLOR, ADDINGTON - -	1092	14th April 1870	Guns and projectiles therefor.
TAYLOR, ADDINGTON - -	1460	20th May 1870	Rocket projectiles for purposes of war.
TAYLOR, AMBROSE LLOYD -	2038	20th July 1870	Apparatus for warming, vapourising and causing a free circulation of fresh air in horticultural structures and other buildings, which apparatus is also applicable for the ventilation of mines and other places.
TAYLOR, ENOCH OPENSHAW -	654	5th March 1870	Apparatus for moulding flanged and socket pipes and columns.
TAYLOR, FENNER BALLOU -	3131	29th Nov. 1870	Machinery for drilling or boring rocks and other mineral substances in mining, tunnelling, quarrying and other like operations.
TAYLOR, FRANCIS - - -	1031	7th April 1870	Certain improvements in the construction of paper collars so far as regards the lining and strengthening thereof.
TAYLOR, GEORGE - - -	2777	21st Oct. 1870	Improved means or machinery for bending and forming tires or hoops for wheels of carts, waggons and carriages, or other similar purposes.
TAYLOR, JAMES, the younger -	107	13th Jan. 1870	An improvement in that description of machinery for combing wool or other fibre, commonly called "Noble's machines."
TAYLOR, JOHN - - -	352	7th Feb. 1870	Apparatus for ploughing, harrowing or cultivating land.
TAYLOR, JOHN - - -	593	28th Feb. 1870	Apparatus employed to produce inflammable gas from mineral or other oils, modifications of which apparatus are also applicable to be employed in the heating of water or the generation of steam.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
TAYLOR, JOHN - - -	968	2nd April 1870	Machinery or apparatus to be employed in preparing cotton or other fibrous substances for spinning.
TAYLOR, JOHN - - -	1772	22nd June 1870	Improvements in the bridges of the furnaces of steam-boilers or generators, or of other furnaces.
TAYLOR, JOHN - - -	2182	5th Aug. 1870	Machinery or apparatus for cutting the pile of cotton velvets and other similar piled fabrics.
TAYLOR, JOHN - - -	2209	9th Aug. 1870	Machinery or apparatus for cutting the pile of velvets, velveteens and other piled fabrics.
TAYLOR, JOHN INGHAM - -	1539	27th May 1870	Washing, churning and mixing machinery.
TAYLOR, JOHN NICHOLES -	946	31st March 1870	Clickouts or tools for drawing nails, spikes and bolts out of timber or other materials.
TAYLOR, SAMUEL - - -	1266	3rd May 1870	Rack pulleys for the cords of window-blinds, maps and other articles.
TAYLOR, THOMAS - - -	136	17th Jan. 1870	Apparatus for the prevention of smoke in steam-boiler and other furnaces.
TAYLOR, WILLIAM - - -	3011	17th Nov. 1870	Sewing-machines.
TAYLOR, WILLIAM PECK -	3330	21st Dec. 1870	Means of and apparatus for preventing or curing smoky chimneys.
TAYLORSON, THOMAS - -	2069	22nd July 1870	An improved positive differential motion.
TEALL, HENRY - - -	96	12th Jan. 1870	Improvements in steam-engines applicable for marine and other purposes.
TELLIER, FRANÇOIS JOSEPH -	1476	21st May 1870	Machinery for the manufacture of strings and cords.
TENWICK, JOHN - - -	374	9th Feb. 1870	Holding fingers used in reaping or mowing machines or other machines of like character.
TER HOEVEN, DIRK ADRIAAN	1716	15th June 1870	Improvements in the treatment and in the employment of certain animal substances to be used as fertilising agents. (*Patented by John Henry Johnson.*)
TERRACE, DAVID - - -	259	28th Jan. 1870	Apparatus used in the manufacture of gas, part of which apparatus is also applicable for ventilating mines, for promoting combustion, and for pumping, measuring and forcing fluids.
TERREL, ENOCH PROVOLT -	2862	31st Oct. 1870	Looms for weaving. (*Patented by William Robert Lake.*)
TERRY, ALFRED - - -	2021	18th July 1870	Apparatus for preparing finings for fining beer and other liquors. (*Patented by St. George Augustus Terry.*)
TERRY, ST. GEORGE AUGUSTUS	2021	18th July 1870	Apparatus for preparing finings for fining beer and other liquors. (*Communicated by Alfred Terry.*)
TESTER, JAMES - - -	1296	6th May 1870	Machinery for cutting chaff and other similar vegetable substances.
THAMSEN, PETER CHRISTIAN -	728	11th March 1870	Manufacture of artificial leather. (*Communicated by Soren Sörensen.*)
THAMSEN, PETER CHRISTIAN -	1050	9th April 1870	Improvements in finishing linen, cotton and other fabrics, and in apparatus to be used for such purposes. (*Communicated by Franz Friedrich Güllick.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
THIERS, WILLIAM FITZ JAMES	3117	28th Nov. 1870	An automatic ventilator, alarm and pump for vessels. (*Patented by Benjamin Joseph Barnard Mills.*)
THIERY, CHARLES LOUIS -	33	4th Jan. 1870	Certain new and useful improvements in the manufacture of watch cases and in machinery for producing the same.
THOMAS, CHARLES - - -	496	19th Feb. 1870	Soap frames.
THOMAS, EDWARD DUMARESQ	2616	1st Oct. 1870	Apparatus for raising and lowering weights, which apparatus is more especially intended as a fire-escape.
THOMAS, GEORGE - - -	1514	25th May 1870	Construction of gas stoves.
THOMAS, JOHN - - -	324	4th Feb. 1870	Breech-loading fire-arms.
THOMAS, LEWIS WILLIAM -	1067	12th April 1870	Improvements applicable to fire-places, stoves and grates, for ensuring safety against fire and the prevention of smoky chimneys.
THOMAS, SAMUEL WEBB, M.A.	361	8th Feb. 1870	Bicycles.
THOMAS, THOMAS - - -	591	28th Feb. 1870	Improved apparatus for preventing accidents in the pits of mines or collieries.
THOMAS, WILLIAM - - -	2942	8th Nov. 1870	Improvements applicable to machinery for washing or scouring wool and other fibrous materials, applicable also to other machinery for conveying, opening and cleaning fibrous materials.
THOMAS-ANQUETIL, ACHILLE	986	4th April 1870	An improved treatment and application of oleic and stearic acids for protecting metallic surfaces from oxidation, and preserving wood and other materials.
THOMASSON, JAMES - -	1423	18th May 1870	Looms for weaving.
THOMASSON, JAMES - -	2483	15th Sept. 1870	Certain improvements in looms for weaving.
THOMPSON, GEORGE CURR -	610	2nd March 1870	Cranes and crabs for hoisting and hauling purposes.
THOMPSON, HENRY GRAHAM -	2925	5th Nov. 1870	Improvements in the axles of railway and tramway carriages, and in apparatus to be employed in combination therewith. (*Patented by John Garrett Tongue.*)
THOMPSON, IRA FRANKLIN -	2560	23rd Sept. 1870	Rasps and files. (*Patented by William Robert Lake.*)
THOMPSON, JAMES - - -	408	11th Feb. 1870	An improved spindle for door handles.
THOMPSON, ROBERT - -	2471	14th Sept. 1870	Machinery for cutting dovetail mortises and dovetail pins or tenons.
THOMPSON, WALKDEN - -	1189	23rd April 1870	Improvements in mills for grinding cattle food and other materials, and in apparatus connected therewith.
THOMPSON, WARREN - -	1301	6th May 1870	Apparatus for recording electric telegraph signals.
THOMPSON, WILLIAM BRUCE -	2712	14th Oct. 1870	Improvements in and relating to the packing of fibrous or loose materials in ships.
THOMSON, GEORGE - - -	1806	25th June 1870	Improvements in treating manganese ores, oxides or salts, and in making ferro-manganese.
THOMSON, JAMES - - -	393	10th Feb. 1870	Ventilation of chimneys and apartments.
THOMSON, JAMES W., junior -	1599	2nd June 1870	Couplings for railway carriages. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
THOMSON, JAMES W., junior -	3120	28th Nov. 1870	Couplings for railway carriages. (*Patented by William Robert Lake.*)
THOMSON, JOHN - - -	2733	17th Oct. 1870	Improved arrangements for applying compressed air or other fluid to propel omnibuses or other vehicles on railways, tramways or common roads, and in part applicable otherwise.
THOMSON, ROBERT WILLIAM -	573	26th Feb. 1870	Improvements in omnibuses and in connecting the same with road-steamers or traction engines.
THOMSON, ROBERT WILLIAM -	601	1st March 1870	Improved arrangements for applying steam power in cultivating land.
THOMSON, ROBERT WILLIAM -	2630	4th Oct. 1870	Improvements in and connected with elastic wheel tires.
THOMSON, WILLIAM - -	70	8th Jan. 1870	New or improved mechanism or apparatus for bending and otherwise operating upon metals or metallic substances.
THOMSON, WILLIAM - -	393	10th Feb. 1870	Ventilation of chimneys and apartments.
THOMSON, WILLIAM - -	2309	22nd Aug. 1870	An improvement in window-blinds.
THOMSON, SIR WILLIAM - -	3069	23rd Nov. 1870	Improvements in electric telegraph transmitting, receiving and recording instruments, and in clocks.
THOMSON, WILLIAM RICHARD [MIDDLEMORE.	2608	1st Oct. 1870	New or improved modes of and means or apparatus for utilizing the power and heat of the steam used in motive-power engines and for other purposes. (*Communicated by Treat Timothy Prosser.*)
THOMSON, WILLIAM ROGERS -	877	25th March 1870	Improvements in locks, latches or bolts for fastening the doors of railway carriages, which improvements are also applicable to other purposes.
THOMSON, WILLIAM SPARKS -	1008	6th April 1870	An improved strap fastener. (*Patented by Alexander Horace Brandon.*)
THOMSON, WILLIAM SPARKS -	2603	30th Sept. 1870	Spinning machinery. (*Patented by Alexander Horace Brandon.*)
THORNDIKE, JOHN HILL -	882	25th March 1870	Valves. (*Patented by Bristow Hunt.*)
THORNE, CORNELIUS - -	722	11th March 1870	Hackling machinery applicable especially to phormium tenax and other long fibres.
THORNELOE, GEORGE - -	113	13th Jan. 1870	A new flexible valve for regulating the flow of fluids in pipes, also used in apparatus for the manufacture of gas.
THORNHILL, GEORGE - -	263	28th Jan. 1870	Hats.
THORNLEY, THOMAS - -	1922	7th July 1870	Apparatus for cleaning the fluted and top rollers of machines used in preparing and spinning cotton and other fibrous substances.
THORNLEY, WILLIAM - -	117	13th Jan. 1870	Steam-boiler and other furnaces.
THORNTON, EBENEZER - -	975	2nd April 1870	Apparatus or methods of heating by the circulation of hot water.
THORNTON, WILLIAM - -	1293	5th May 1870	Manufacture or production of gaiters, cuffs, mitts, or other similar articles.
THORPE, THOMAS - - -	1229	29th April 1870	Manufacture of piled fabrics.
THUMB, CAMILLO - - -	309	2nd Feb. 1870	An improved mode of and apparatus for revivifying animal charcoal. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
THURGAR, AUGUSTUS HENRY -	3385	28th Dec. 1870	Materials for the manufacture of paper also applicable for other purposes.
TIETJEN, GEORGE TOOLEY -	343	7th Feb. 1870	An improved method of adjusting the bodies and shafts or poles of vehicles to suit the height of the animals employed to draw them.
TIETJEN, JOHN - - -	925	30th March 1870	An improved endorsing or marking press or stamp.
TILDESLEY, JAMES - - -	2440	9th Sept. 1870	Improvements in the lifting latch bolts of locks and latches, and in staples for the same.
TILGHMAN, BENJAMIN CHEW -	2147	1st Aug. 1870	Cutting, boring, grinding and pulverising stone and other hard substances. (*Patented by Alfred Vincent Newton.*)
TILGHMAN, BENJAMIN CHEW -	2900	3rd Nov. 1870	Cutting, boring, grinding and pulverising stone and other hard substances. (*Patented by Alfred Vincent Newton.*)
TILLMAN, SAMUEL DYER -	1191	25th April 1870	Improvements in boilers, air heaters, steam condensers and analogous constructions, for transferring heat from one fluid to another.
TILLMAN, SAMUEL DYER -	2340	25th Aug. 1870	Tramways and road surfaces.
TILSON, WILLIAM - - -	2467	13th Sept. 1870	Improvements in twist-lace machines and in the manufacture of lace made on twist-lace machines.
TIMMINS, HENRY - - -	1607	3rd June 1870	Manufacture of hinges.
TIMMIS, ILLIUS AUGUSTUS -	2490	15th Sept. 1870	Manufacture of "brattice cloths" used in coal and other mines.
TIRANOFF, JOHN - - -	1269	3rd May 1870	Improvements in apparatus for preventing railway carriages running off the line, in wheels for enabling them to pass round curves, in operating points or switches automatically, and in securing rails to chairs or supports.
TIVOLI, VITAL DE - - -	3040	21st Nov. 1870	Ship signals. (*Communicated by Signor Augusto Guattari.*)
TOBIN, MARTIN - - -	3141	30th Nov. 1870	Boots, shoes and other coverings for the feet.
TOBIN, THOMAS WILLIAM -	2654	6th Oct. 1870	Safes, strong rooms and apparatus for the protection of valuable property.
TOCHER, FRANKLIN - -	940	31st March 1870	Ventilation of hats.
TOEPLER, PAUL - - -	1123	18th April 1870	An improved process for cleaning wool and separating the grease therefrom.
TOEPLER, PAUL - - -	2745	18th Oct. 1870	An improved process for cleaning wool and separating the grease therefrom.
TOLHAUSEN, FREDERICK -	1701	14th June 1870	An improved apparatus for mixing soils, chemical manures and other substances either separately or together, and for mixing dry with semifluid substances, liquids or air. (*Patented by Henry Hammond.*)
TOLHAUSEN, FREDERICK -	3213	7th Dec. 1870	An improved apparatus for mixing soils, chemical manures and other substances, either separately or together, and for mixing dry with semi-fluid substances, liquids or air. (*Patented by Henry Hammond.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Tolson, Thomas George -	2685	11th Oct. 1870	Apparatus for saving life and property at sea.
Tomes, Benjamin - - -	3050	21st Nov. 1870	Breech-loading fire-arms. (*Patented by John Henry Johnson.*)
Tomlinson, Edward - -	562	25th Feb. 1870	Machinery or machines for type, design and colour printing on paper and other materials, and creasing, scoring or bending, cutting and perforating the same simultaneously.
Tomlinson, James - - -	2742	18th Oct. 1870	Machinery for preparing cotton and other fibrous materials.
Tommasi, Ferdinand - -	1558	27th May 1870	An improved thermo-press.
Tommasi, Ferdinand - -	1915	6th July 1870	An improved submarine hydro-electric telegraph cable.
Tonge, Richard - - -	772	16th March 1870	Improvements in looms for weaving, partly applicable to beaming machines.
Tongue, John Garrett -	28	4th Jan. 1870	Processes for the purification of saccharine syrups. (*Communicated by Alexandre Auguste Perier, Antoine Louis Possoz and Jean François Cail.*)
Tongue, John Garrett -	161	19th Jan. 1870	Governors for regulating the speed of prime movers. (*Communicated by Eduard Buss and Wilhelm Albert Buss.*)
Tongue, John Garrett -	2636	5th Oct. 1870	Improvements in Brussels and in tapestry carpets. (*Communicated by George Crompton.*)
Tongue, John Garrett -	2925	5th Nov. 1870	Improvements in the axles of railway and tramway carriages, and in apparatus to be employed in combination therewith. (*Communicated by Henry Graham Thompson.*)
Tongue, John Garrett -	3059	22nd Nov. 1870	Looms for weaving Brussels carpeting. (*Communicated by George Crompton.*)
Tongue, William - - -	2356	27th Aug. 1870	Machinery for combing fibrous materials.
Tongue, William Thomas -	2982	14th Nov. 1870	Lamps for the roofs of railway carriages and other purposes.
Toone, John Vidler - -	1034	8th April 1870	An improved automatic lamb-creep.
Tooth, Robert - - -	3324	20th Dec. 1870	Improvements in the mode of condensing saccharine juices and in apparatus to be employed therein, which apparatus is applicable to evaporating other liquids.
Tooth, William Henry -	2922	5th Nov. 1870	Improvements in the construction and working of furnaces, bakers' oven fireplaces, stoves and stove grates, for the purpose of igniting and consuming smoke.
Tooth, William Henry -	3226	8th Dec. 1870	Breech-loading fire-arms.
Topham, Charles - -	1509	25th May 1870	Improvements in certain parts of machines for mincing or minutely dividing meat, vegetables or other similar substances requiring to be minutely divided.
Topham, Charles - -	1858	30th June 1870	Apparatus for washing and peeling or removing the skin from potatoes.
Toppan, Charles - - -	2762	20th Oct. 1870	Manufacture of oil and other products of petroleum. (*Patented by William Robert Lake.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
Towle and Harding - -	1313	7th May 1870	An improved stamping apparatus chiefly designed for impressing names, addresses, dates and numbers, upon letters, envelopes and other papers. (*Patented by William Robert Lake.*)
Towle, Hamilton E. - -	1431	18th May 1870	Improvements in looms for weaving and in shuttles for the same and for other machines. (*Patented by William Robert Lake.*)
Towle, Hamilton E. - -	2491	15th Sept. 1870	An improved mode of and means for electroplating the interior of lead and other metal tubes or pipes.
Towle, Hamilton E. - -	2508	17th Sept. 1870	An improved apparatus for forming wire into spiral coils.
Townsend, George - -	742	14th March 1870	Lawn edge clippers.
Townsend, Joseph - -	881	25th March 1870	Improvements in obtaining and applying iron and manganese protoxides or their carbonates, in obtaining and applying baryta, strontia and salts thereof, in obtaining potash, soda and sulphur, and in utilising bye or "waste" products arising in the manufactures of chlorine, copper and alum.
Townsend, Joseph - -	1124	18th April 1870	Improvements in applying heat and in apparatus for applying heat in various chemical and other operations, such as roasting, oxidising, calcining, decomposing and volatilising.
Toynbee, Edward - - -	3041	21st Nov. 1870	Improvements in screens more especially applicable for screening mineral phosphates.
Tripler, Archibald B. -	2159	2nd Aug. 1870	Preparation and treatment of wood to preserve the same from decay. (*Patented by William Robert Lake.*)
Tristram, Henry - - -	2448	10th Sept. 1870	Letter boxes and bags for receiving and containing letters.
Trossin, Otto - - -	2884	2nd Nov. 1870	A new mode or apparatus for obtaining and applying motive-power.
Trottier, Jules - - -	325	4th Feb. 1870	Manufacture of boxes, cases and analogous articles. (*Patented by William Edward Gedge.*)
Trueg, Ludwig Ignatius -	2660	7th Oct. 1870	Instruments for obtaining solar measurements of latitude and time. (*Patented by George Haseltine.*)
Truman, Edwin Thomas -	41	5th Jan. 1870	Machinery for cleansing and preparing gutta-percha, india-rubber and like substances.
Truman, Edwin Thomas -	878	25th March 1870	Improvements in treating and preparing gutta-percha and other like substances, and in machinery used in the preparing process.
Truss, Thomas Seaville -	695	9th March 1870	Construction of steam and hot water boilers and coils in sections.
Tuddenham, Stephen - -	2016	16th July 1870	Improvements in the manufacture of ornamental and other twisted metal work, and in the machinery, apparatus or means employed therein.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
TUDDENHAM, STEPHEN - -	2878	1st Nov. 1870	Construction of metal gates, applicable also to tie rod couplings, hinges for shop-blind arms and other useful purposes.
TUDDENHAM, STEPHEN - -	2970	11th Nov. 1870	Production of ornamental work in glass combined or not with metals, porcelain and other like substances.
TUPPER, ARTHUR CHILVER -	3042	21st Nov. 1870	Manufacture of lint for surgical, medical and other purposes.
TURNER, ARCHIBALD - -	402	10th Feb. 1870	Improvements in the manufacture of carpets and in the machinery employed therein.
TURNER, ARCHIBALD - -	2072	22nd July 1870	Manufacture of elastic fabrics.
TURNER, ARCHIBALD - -	2109	27th July 1870	Manufacture of thread for sewing embroidery and other analogous purposes.
TURNER, ARCHIBALD - -	2223	10th Aug. 1870	Machinery employed in the manufacture of carpets.
TURNER, ARCHIBALD - -	2272	16th Aug. 1870	Manufacture of elastic fabrics.
TURNER, ARCHIBALD - -	2386	1st Sept. 1870	Machinery or apparatus for printing yarns or warps for carpets or other fabrics.
TURNER, ARCHIBALD - -	2788	22nd Oct. 1870	Improvements in the manufacture of terry or cut-pile fabrics, and in the application of such fabrics to the manufacture of slippers, shoes, bags and other shaped articles.
TURNER, EDWARD RUSH -	3186	3rd Dec. 1870	Portable and other steam-engines.
TURNER, GEORGE RICH, the [younger.	1433	18th May 1870	Winnowing or dressing machines.
TURNER, HENRY, the younger -	7	1st Jan. 1870	Weaving plain and elastic terry fabrics.
TURNER, JOSIAH - - -	3207	6th Dec. 1870	An improved crank-action applicable to velocipedes.
TURNER, LUKE - - -	1387	14th May 1870	Manufacture of elastic fabrics.
TURNER, LUKE - - -	2272	16th Aug. 1870	Manufacture of elastic fabrics.
TURNER, RICHARD BOURNE -	2852	29th Oct. 1870	Needle cases or needle holders.
TURNER, SIDNEY STEVENS -	846	22nd March 1870	Machines for sewing straw.
TURNER, THOMAS - - -	1065	12th April 1870	Bricks and other building blocks.
TURNER, WILLIAM BARROW -	2447	10th Sept. 1870	Arrangements and mechanism for preventing or providing against accidents in winding or hoisting machinery used for mines and other purposes.
TURTON, GEORGE - - -	2131	29th July 1870	New or improved instruments or apparatus for lighting fires.
TWEED, HENRY AUSTIN - -	3294	16th Dec. 1870	An improved device for securing clothes or other articles upon a rope or line. (*Patented by William Henry Chase.*)
TWIGG, GEORGE - - -	458	16th Feb. 1870	Shearing and clipping apparatus.
TWINING, WILLIAM - -	2756	20th Oct. 1870	Machinery for the manufacture of toilet or dress pins and other pins.
TYLER, GEORGE - - -	342	5th Feb. 1870	Construction of fasteners for securing together the ends, bands or parts of made-up scarves, neck-ties, belts, sashes, or other articles of wearing-apparel to which such fastenings are applicable.
TYLOR, ALFRED - - -	2460	12th Sept. 1870	Improvements in wet and dry closets and in apparatus connected therewith.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
TYLOR, HENRY - - -	3033	19th Nov. 1870	Improved construction of frames for bedsteads, tables, stands, chairs, seats and other similar articles.
TYRER, JAMES - - -	2850	29th Oct. 1870	Brace buckles.
TYRER, WILLIAM - - -	641	4th March 1870	Propellers for ships or other navigable vessels.
TYZACK, GEORGE - - -	737	12th March 1870	Windlasses and capstans.

U.

UDELHOVEN, GEORG FRIEDRICH.	1207	26th April 1870	Construction of multitubular steam-boilers. (*Patented by Alexander Browne.*)
UMBACH, ANTHONY - -	140	17th Jan. 1870	Machinery or apparatus for ornamenting or embroidering fabrics.
UNDERHILL, WILLIAM SCOTT	230	25th Jan. 1870	Steam-engines.
UNDERWOOD, JOHN - -	1218	27th April 1870	Means of stoppering or closing the necks, mouths or openings of bottles, jars and other similar vessels.
UNSWORTH, THOMAS - -	2254	13th Aug. 1870	Machinery for making banding.
UPSON, JAMES W. - - -	2388	1st Sept. 1870	An improved apparatus for tethering horses and other animals. (*Patented by George Haseltine.*)
UPTON, FREDERICK JOHN -	913	29th March 1870	Hats and other like coverings for the head.
URQUHART, WILLIAM WALTON	2439	9th Sept. 1870	Power looms.
UTTING, WILLIAM - - -	921	30th March 1870	Improved apparatus for steering ships. (*Communicated by James Porter and Herbert Perkins.*)

V.

VAN CHOATE, SILVANUS FREDERICK.	1801	24th June 1870	Distilling alcoholic liquors.
VAN CLEVE, WILLIAM HUNTER	2274	17th Aug. 1870	An improved washer for locking screw nuts on their bolts. (*Patented by William Robert Lake.*)
VAN DEN BERGH, JULIUS ARNOLDUS RYKE.	1470	21st May 1870	An improved apparatus for saving property and transmitting messages in cases of disaster at sea.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
VAN HAAGEN, CLAUS - -	3366	24th Dec. 1870	Improvements in engraved or ornamented blocks or plates, in the mode or method of producing the same and in the apparatus or mechanism employed therein, which apparatus is also applicable to other useful purposes. (*Patented by John Henry Johnson.*)
VAN HORNE, AUGUSTUS [KNAPP.	2615	1st Oct. 1870	An improved machine for polishing metal and other surfaces. (*Patented by George Haseltine.*)
VAN LAETHEM, HENRY - -	1422	18th May 1870	Universal dials for clocks and watches.
VAN REEDE, CORNELIS JO- [HANNES WILTON.	1488	23rd May 1870	Screw propellers. (*Patented by Alexander Browne.*)
VAN WINKLE, ABRAHAM -	102	12th Jan. 1870	Machines for bottling soda-water and other gaseous or effervescing liquids. (*Partly communicated by Gustavus Davis Dows.*)
VARLEY, CROMWELL FLEET- [WOOD.	226	25th Jan. 1870	Producing heat and light.
VARLEY, CROMWELL FLEET- [WOOD.	1044	8th April 1870	Electric telegraphs.
VAUGHAN, EDWARD PRIME- [ROSE HOWARD.	540	24th Feb. 1870	Improvements in the mode of and in machinery for splitting rocks. (*Communicated by John Robb.*)
VAUGHAN, EDWARD PRIME- [ROSE HOWARD.	1352	11th May 1870	Construction of and methods of working gas engines. (*Communicated by Lars Albert Leonard Söderström and George Alexander Dick.*)
VAUGHAN, EDWARD PRIME- [ROSE HOWARD.	2959	10th Nov. 1870	Improvements in the construction of and in the methods of working gas engines. (*Communicated by Lars Albert Leonard (Söderström and George Alexander Dick.*)
VAUGHAN, EDWARD PRIME- [ROSE HOWARD.	3042	31st Dec. 1870	Preventing incrustation in and corrosion of steam-boilers and other vessels. (*Communicated by Charles James Adolphus Dick.*)
VERLEYE, ERNEST AUGUSTE -	942	31st March 1870	Mechanism for diminishing friction. (*Patented by William Robert Lake.*)
VERO, CHARLES - - -	299	1st Feb. 1870	Manufacture of hats, caps and other coverings for the head.
VERO, JOSEPH - - -	2853	29th Oct. 1870	Machinery or apparatus for hardening felt hat bodies and other coverings for the head.
VERO, JOSEPH - - -	2877	1st Nov. 1870	Machinery or apparatus employed in the manufacture of felt hats and other like coverings for the head.
VICKESS, SAMUEL - - -	1935	8th July 1870	Kilns employed in the manufacture and reburning of animal charcoal.
VIGNIER, EVARISTE - -	2122	28th July 1870	Improvements in distilling and rectifying and in apparatus employed therefor.
VIGOUR, HYACINTHE - -	1209	27th April 1870	An improvement in rolling mills or machines for manufacturing round and square bar iron. (*Patented by William Edward Gedge.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
VIGOUR, HYACINTHE - -	2812	26th Oct. 1870	An improvement in rolling mills or machines for manufacturing round and square bar iron. (*Patented by William Edward Gedge.*)
VILLAIN, SIXTE PIERRE - -	417	12th Feb. 1870	Machines for polishing yarns or threads. (*Patented by William Spence.*)
VILLENEUVE, ABEL HUREAU [DE.	440	15th Feb. 1870	An improved machinery for generating, obtaining and applying motive-power.
VILLEPIGUE, AUGUSTE - -	681	8th March 1870	Apparatus for boring. (*Communicated by Floran Ferdinand Villepigue.*)
VILLEPIGUE, FERDINAND -	2816	23rd Aug. 1870	Improved apparatus for boring in rock, coal, mineral, slate and other similar substances. (*Patented by Martin Macdermott and Arthur David Williams.*)
VILLEPIGUE, FLORAN FERDIN- [NAND.	681	8th March 1870	Apparatus for boring. (*Patented by Auguste Villepigue.*)
VIMEUX, EUGENE - - -	1214	27th April 1870	Musical instruments.
VINCENT, CHARLES - -	506	21st Feb. 1870	Clips or shears for clipping or shearing horses and other animals, which are also applicable for other purposes. (*Patented by Thomas James Smith.*)
VIRTUE, FRANCIS - - -	785	16th March 1870	Improvements in maintaining, controlling and registering the pressure in hydraulic presses and in apparatus connected therewith.
VIVIER, OCTAVE - - -	82	11th Jan. 1870	Means or apparatus for measuring and indicating the distances travelled by vehicles.
VON HARTZ, HENRY - -	326	4th Feb. 1870	Construction of knitting-machines. (*Patented by Alfred Vincent Newton.*)
VON JEINSEN, ERNEST - -	2294	19th Aug. 1870	Improved methods of effecting the lubrication of and exclusion of dust from carriage axle journals and other bearings, and in apparatus or mechanical devices employed therefor. (*Patented by William Robert Lake.*)
VON JEINSEN, ERNEST - -	2797	24th Oct. 1870	Automatic lubricators.
VON JEINSEN, ERNEST - -	3165	2nd Dec. 1870	Axles and axle-boxes for wheeled vehicles. (*Patented by William Robert Lake.*)
VON MARTINI, FRIEDRICH -	603	1st March 1870	Breech-loading fire-arms. (*Patented by William Lloyd Wise.*)
VOORHEES, HENRY VROOM -	2615	1st Oct. 1870	An improved machine for polishing metal and other surfaces. (*Patented by George Haseltine.*)
VOSE, RICHARD - - -	2829	27th Oct. 1870	Springs for railway carriages. (*Patented by William Robert Lake.*)
VOSPER, HERBERT - - -	2657	7th Oct. 1870	Direct-acting steam-engines.
VOY, JOSEPH ROBERT M^{c} -	3164	2nd Dec. 1870	An improved apparatus or means for instantly detaching railway carriages from the engine while the train is in motion.
VYSE, THOMAS ANDREW, junior	2124	29th July 1870	An improved device for guiding covered wire to be secured upon a fabric or substance in a sewing-machine. (*Communicated by William T. Cook.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.

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WADDIE, CHARLES - - -	2637	5th Oct. 1870	A new or improved self-acting lithographic and type printing press.
WADDINGTON, ABRAHAM -	2222	10th Aug. 1870	Improvements in carriages for running on circular railways, and in the means or method of propelling the same.
WADE, BENJAMIN - - -	822	19th March 1870	Self-acting signals for railways.
WADE, CHARLES MARTIN -	83	11th Jan. 1870	Switch apparatus for operating the points and crossings of the permanent way of railways. (*Communicated by James Walker Robertson.*)
WADE, JOSEPH ARMYTAGE -	1173	22nd April 1870	Improvements in roofing tiles, and in the method of locking or fastening them together when being formed into a roof, and in the ridging for tiled roofs, and in the apparatus used in the manufacture of such tiles, fastenings and ridges, and also of articles used for similar purposes and for bricks.
WADSWORTH, JAMES - -	124	15th Jan. 1870	Improvements in the construction of steam and other boilers and in apparatus used therewith, for economising heat, condensing steam and saturating heated air.
WADSWORTH, JAMES - -	964	2nd April 1870	An improved portable oven, a modification of which may also be used for heating apartments.
WAIDE, FRANCIS WILLIAM -	893	26th March 1870	Mantel register stoves and register stoves.
WAIN, JOHN - - - - -	771	16th March 1870	Mules for spinning and doubling.
WAITE, WILLIAM THURSTON	203	22nd Jan. 1870	Preparation of animal charcoal for use in treating saccharine solutions.
WAITE, WILLIAM THURSTON	204	22nd Jan. 1870	Improvements in filtering saccharine solutions and other liquids, and in means or apparatus employed therein.
WAKEFIELD, CHARLES AUSTIN	1500	24th May 1870	Improvements in earth closets, applicable also in part to waterclosets and privies. (*Patented by William Edward Newton.*)
WAKEFIELD, JOHN - - -	585	28th Feb. 1870	Indicators for steam-boilers.
WAKEFIELD, JOHN - - -	2008	15th July 1870	Improvements in rails for railways and tramways, and in wheel tyres for railways and tramways.
WALBANK, EDWARD - -	1497	24th May 1870	Apparatus to expedite the fitting of "uppers" in all kinds of boots and shoes.
WALCH, OTTMAR - - -	2089	25th July 1870	Improved machinery or apparatus for separating matches, so that they can be dipped in the phosphoric paste without adhering to one another.
WALCKER, WILHELM - -	330	4th Feb. 1870	Manufacture of chairs and other seats. (*Patented by Thomas James Smith.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WALDEJO, FERDINAND - -	578	26th Feb. 1870	An improved military tent. (*Patented by Alexis Godillot.*)
WALDENER, GEORGE FREDERICK.	2732	17th Oct. 1870	Raising and registering the measurements of wine, spirits and other fluids, by means of the self-registering fluid engine.
WALKER, ALEXANDER - - -	1788	23rd June 1870	Window sashes and parts connected therewith.
WALKER, ALFRED ALBERT -	2128	29th July 1870	Furniture castors.
WALKER, BENJAMIN - -	356	7th Feb. 1870	Improvements in clutches for engaging and disengaging parts of machinery, and in apparatus for working such clutches.
WALKER, BENJAMIN - -	1280	4th May 1870	Machinery for puddling.
WALKER, BENJAMIN - -	2542	22nd Sept. 1870	Driving wheels applicable to traction engines.
WALKER, CHARLES CLEMENT	1064	12th April 1870	Centre valves for gas purifiers and other apparatus.
WALKER, DAVID - - -	1299	6th May 1870	Apparatus or arrangements for preventing or reducing the production of smoke in furnaces.
WALKER, EDMUND - - -	2916	4th Nov. 1870	Windlasses.
WALKER, FREDERICK ALFRED	1534	26th May 1870	An improved setting fid.
WALKER, GEORGE - - -	2128	29th July 1870	Furniture castors.
WALKER, JACOB - - -	2023	18th July 1870	Machinery for making railway and other spikes or bolts.
WALKER, JAMES TOWNSEND -	780	16th March 1870	Making horse-shoes.
WALKER, JOHN - - -	794	17th March 1870	Bottles for containing aërated and similar liquids under pressure.
WALKER, JOHN - - -	1684	11th June 1870	Form and construction of steam and other ships and floating vessels.
WALKER, LLEWELLYN - -	1534	26th May 1870	An improved setting fid.
WALKER, NORMAN STEWART -	2739	18th Oct. 1870	An improved manufacture of combined lead and tin pipes.
WALKER, NORMAN STEWART -	2919	5th Nov. 1870	Improvements in or additions to apparatus employed in the production of lead, lead-encased-block-tin and other soft metal pipes from ingots.
WALKER, PARLANE M'FARLANE.	831	21st March 1870	Improvements in shoeing horses and in the modes and means or appliances connected therewith.
WALKER, ROBERT - - -	2873	1st Nov. 1870	Manufacture of artificial fuel.
WALKER, THOMAS - - -	274	31st Jan. 1870	Improvements applicable to telegraphic purposes.
WALKER, THOMAS - - -	2128	29th July 1870	Furniture castors.
WALKER, THOMAS GEORGE -	3057	22nd Nov. 1870	An improved method of and apparatus for expelling volatile matters from peat.
WALKER, THOMAS WEST -	712	10th March 1870	Improvements in enamelling stone and articles composed of burnt clay, and in the enamel to be employed therein.
WALKER, WILLIAM - -	2416	6th Sept. 1870	Propellors, pumps and blowers.
WALKER, WILLIAM THOMAS -	1064	12th April 1870	Centre valves for gas purifiers and other apparatus.
WALLACE, HUGH - - -	3008	17th Nov. 1870	Furnaces.
WALLACE, JOSEPH - - -	717	10th March 1870	Apparatus for distilling.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WALLACE, WILLIAM - -	1961	13th July 1870	Improvements in carpets and in machinery or apparatus for manufacturing the same. (*Patented by John Henry Johnson.*)
WALLACE, WILLIAM VINCENT	2948	9th Nov. 1870	Preparation of surfaces adapted for painting, photographic and other printing.
WALLER, WILLIAM - -	1427	18th May 1870	Furnaces.
WALMSLEY, JOHN - - -	469	17th Feb. 1870	An improved method or means of ornamenting woollen, calico and seal skin cloths.
WALSH, JAMES - - -	3401	31st Dec. 1870	Machinery or apparatus used in the preparation of cotton or other fibrous materials for spinning.
WALSH, SAMUEL ARMSTRONG	3392	29th Dec. 1870	Improvements in paper stock and means or method of making paper pulp from wood, straw, cane, esparto grass, flax, flax tow, hemp, hemp tow, jute, jute tow, Manilla rope or Manilla tow and all analogous material or vegetable substances, and in the treatment of materials used therein and in apparatus for treating the same. (*Communicated by Morris Longstreth Keen.*)
WALTERS, BENJAMIN - -	1077	12th April 1870	Attaching door and other knobs to their spindles.
WALTERS, PHILIP - - -	2251	12th Aug. 1870	Certain improvements in fastenings for doors.
WALTHEW, FREDERICK JAMES	3329	21st Dec. 1870	Improvements in the construction of umbrellas and parasols, parts of which improvements are also applicable to defensive sticks.
WALTON, FREDERICK - -	633	3rd March 1870	Construction of houses and other buildings or structures.
WALTON, THOMAS - - -	2505	17th Sept. 1870	An improved means or apparatus for ventilating rooms or buildings.
WARD, ALBERT THOMAS -	2981	14th Nov. 1870	Improvements in the manufacture of wire, which improvements are also applicable in the manufacture of other metallic articles in the production of which the process of annealing forms a part.
WARD, HUGH M'ENTEE - -	1325	9th May 1870	Machinery for spinning or twisting flax, hemp, jute and other fibrous substances.
WARD, HUGH M'ENTEE - -	1912	6th July 1870	Machinery for spinning and twisting fibrous substances.
WARD, JOHN - - - -	358	8th Feb. 1870	Preparing and drying yeast.
WARD, JOSEPH - - -	2612	1st Oct. 1870	Working of locomotive engines.
WARD, SAMUEL L. - - -	1599	2nd June 1870	Couplings for railway carriages. (*Patented by William Robert Lake.*)
WARD, SAMUEL L. - - -	3120	28th Nov. 1870	Couplings for railway carriages. (*Patented by William Robert Lake.*)
WARDEN, CHARLES JAMES [HISLOP.	826	19th March 1870	Apparatus for securing the doors of railway carriages and preventing the opening of the same while the train is in motion.
WARDEN, WILLIAM GRAY -	3067	23rd Nov. 1870	Vessels and appliances connected therewith for carrying liquid cargoes in bulk. (*Patented by John Henry Johnson.*)
WARDLE, JOHN - - -	680	8th March 1870	Machinery for spinning and doubling.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WARNE, JOHN - - -	1386	14th May 1870	Apparatus or vessels for cooling.
WARNER, EFFINGHAM HOWARD [NICHOLS.	1158	20th April 1870	Shirt fronts and cuffs. (*Patented by Alexander Melville Clark.*)
WARNER, JAMES GODFREY -	93	12th Jan. 1870	Bolts for securing parts of the permanent way of railways.
WARREN, WILLIAM - -	211	22nd Jan. 1870	Ships' anchors.
WARRINGTON, THOMAS AL- [FRED.	373	9th Feb. 1870	Copying presses.
WARRINGTON, THOMAS AL- [FRED.	2057	21st July 1870	Ventilators.
WARSOP, GEORGE - - -	2168	3rd Aug. 1870	Steam-engines.
WATERHOUSE, ADDISON GOOD- [YEAR.	279	31st Jan. 1870	Apparatus for producing rotary motion. (*Patented by William Robert Lake.*)
WATERMAN, JULIUS - -	1100	14th April 1870	Production of metallic alloys of manganese. (*Patented by Alfred Vincent Newton.*)
WATERS, DANIEL HOWARD -	834	21st March 1870	Manufacturing barrels and other round vessels of wood. (*Patented by Alfred Vincent Newton.*)
WATKIN, HENRY SPILLER -	1877	2nd July 1870	Apparatus for measuring distances by angles of depression irrespective of height, and determining the distances thereby. (*Patented by John William Spiller Watkin, M.A.*)
WATKIN, JOHN WILLIAM [SPILLER, M.A.	1877	2nd July 1870	Apparatus for measuring distances by angles of depression irrespective of height, and determining the distances thereby. (*Communicated by Henry Spiller Watkin.*)
WATKIN, WILLIAM - -	3142	30th Nov. 1870	Machinery for making bricks or tiles.
WATKINS, ALEXANDER - -	1032	8th April 1870	Apparatus for winding and setting watches and other timekeepers.
WATKINS, ARNOLD HIRST -	3056	22nd Nov. 1870	An improved respirator to be used in confined positions rendered unhealthy from the presence of noxious gases or effluvia.
WATKINS, FRANCIS - -	2604	30th Sept. 1870	Fastenings for the ends of the metallic hoops or bands used in baling cotton and other substances.
WATKINS, JOHN - - -	783	16th March 1870	Dies or tools used in drawing metallic tubes.
WATMOUGH, JAMES - -	1384	14th May 1870	Boilers for heating water for baths and for domestic and other purposes.
WATSON, CHARLES - - -	890	26th March 1870	Machinery for making dip candles.
WATSON, DAVID - - -	2555	23rd Sept. 1870	Improvements in the destructive distillation at comparatively low temperatures of solid bituminous substances, such as bituminous coals, shales or schists and in apparatus therefor.
WATSON, GEORGE - - -	890	26th March 1870	Machinery for making dip candles.
WATSON, JOHN - - -	127	15th Jan. 1870	Feed motion of sewing-machines.
WATSON, JOSEPH - - -	890	26th March 1870	Machinery for making dip candles.
WATSON, LOUIS - - -	871	24th Jan. 1870	Means of and apparatus for indicating or registering goods raised or lowered in breweries, granaries, warehouses and other buildings.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WATSON, WILLIAM RENNY -	1628	4th June 1870	Improvements in desiccating sugar-cane refuse (known as megass, bagasse or trash) and in the apparatus or means employed therefor.
WATTS, CHARLES - - -	2804	25th Oct. 1870	Treatment of resinous gums employed in the manufacture of varnishes.
WATTS, ROBERT - - -	3359	23rd Dec. 1870	Manufacture of covered buttons.
WATTS, THOMAS CHARLES -	2804	25th Oct. 1870	Treatment of resinous gums employed in the manufacture of varnishes.
WATTS, WILLIAM THOMAS -	3354	22nd Dec. 1870	Manufacture of hollow vessels, and dished, sunken or tubular shapes or forms in metal.
WAYNE, JOSEPH BLOUNT -	3083	24th Nov. 1870	Breech loading fire-arms.
WEARE, ELI - - - -	1079	13th April 1870	Improvements in using the waste threads of condensing carding-engines, and in machinery to be used for that purpose.
WEARE, ROBERT - - -	1311	7th May 1870	Apparatus for receiving and treating sewage and other noxious matters.
WEATHERDON, BALDWIN [FULFORD.	1728	16th June 1870	An improved machine for breaking stones. (*Communicated by Del Ferdinand.*)
WEATHERDON, BALDWIN [FULFORD.	2108	26th July 1870	The employment of an improved material for forming the bodies or foundations of hats or other coverings for the head. (*Communicated by August Leneven.*)
WEBB, FRANCIS WILLIAM -	1669	9th June 1870	Ladles for molten metals.
WEBB, FRANK - - -	3353	22nd Dec. 1870	Improvements in that class of musical instruments called "American organs."
WEBB, THOMAS GEORGE -	1420	17th May 1870	Manufacture and ornamentation of articles of glass.
WEBB, THOMAS GEORGE -	2960	10th Nov. 1870	Improvements in apparatus for the manufacture of articles of pressed glass.
WEBB, WILLIAM GEORGE -	2291	19th Aug. 1870	An improved method of printing upon glass.
WEBER, LIONEL - - -	1055	9th April 1870	Galvanic cells and batteries.
WEBLEY, PHILIP - - -	1474	21st May 1870	Breech-loading fire-arms.
WEBLEY, THOMAS WILLIAM -	1474	21st May 1870	Breech-loading fire-arms.
WEBSTER, JAMES - - -	1528	26th May 1870	Converters for the manufacture of steel and other metals, refining oil and other liquids.
WEDEKIND, HERMANN - -	351	7th Feb. 1870	Means or apparatus for straightening, stamping out, shearing and otherwise shaping and treating iron, steel, copper and other metallic plates and sheets. (*Communicated by Gustave Piedbœuf.*)
WEDEL-JARLSBERG, FERDI- [NAND JULIUS, BARON OF.	1797	24th June 1870	Apparatus for indicating the speed of vessels and the velocity of running water. (*Patented by Peter Jensen.*)
WEDLAKE, THOMAS WILLIAM	1341	11th May 1870	Steam-engines and boilers.
WEED, OTIS HENRY - -	909	28th March 1870	An improved combined washing-machine and ironing table.
WEEDON, GEORGE - - -	824	19th March 1870	Knife cleaning machines.
WEEKS, ALFRED WILLIAM [GEORGE.	256	28th Jan. 1870	Construction and application of hot water boilers, joints and valves.
WEEKS, LEMUEL WILLIS -	1353	12th May 1870	Manufacture of ball floats. (*Partly communicated by L. L. Lee.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WEEKS, LEMULL WILLIS -	2571	26th Sept. 1870	Water gauges for steam-boilers. (*Communicated by L. L. Lee.*)
WEEMS, JOHN - - -	436	15th Feb. 1870	Improvements in the manufacture or production of metallic pipes and sheets, and in making joints therefor.
WEEMS, JOHN - - -	3163	2nd Dec. 1870	Machinery, apparatus or means for heating, drying and finishing woven fabrics, drying yarns, fibrous materials and other similar substances.
WEEMS, WILLIAM - - -	436	15th Feb. 1870	Improvements in the manufacture or production of metallic pipes and sheets, and in making joints therefor.
WEEMS, WILLIAM - - -	3163	2nd Dec. 1870	Machinery, apparatus or means for heating, drying and finishing woven fabrics, drying yarns, fibrous materials and other similar substances.
WEGMANN, FREDERIC - -	1287	5th May 1870	Apparatus for cleaning grain and seeds. (*Patented by Alfred Vincent Newton.*)
WEHRLI, JOHN - - -	3177	3rd Dec. 1870	Embroidering machines. (*Patented by Henry Bernoulli Barlow.*)
WEIBEL, JULES HENRY - -	54	6th Jan. 1870	Heating apparatus. (*Patented by John Henry Johnson.*)
WEILD, WILLIAM - - -	48	6th Jan. 1870	Machinery for winding yarn or thread on to bobbins, spools or other similar surfaces.
WEIR, GEORGE - - -	1707	14th June 1870	Slide valves.
WEIR, JAMES - - - -	1707	14th June 1870	Slide valves.
WELCH, EDWARD JOHN COWLING.	643	4th March 1870	Improved apparatus for using the lime light for theatrical representations and other purposes.
WELCH, JOSEPH - - -	2852	29th Oct. 1870	Needle cases or needle holders.
WELCH, JOSEPH - - -	3006	17th Nov. 1870	Needle-cases.
WELLS, GEORGE - - -	1477	21st May 1870	Steam and other valves.
WELLS, GEORGE - - -	1705	14th June 1870	Apparatus for ventilating ships and for extinguishing fires on board same. (*Communicated by Edward Kirk Horn.*)
WELLS, GEORGE - - -	2466	13th Sept. 1870	Ground or earth screws.
WELTER, EMILE - - -	792	17th March 1870	A new or improved apparatus for damping woven fabrics. (*Patented by William Edward Gedge.*)
WELTON, THOMAS - - -	135	17th Jan. 1870	Improvements in stoppers for jars, carboys, bottles, casks and other vessels, and in the manufacture of such articles to which the stoppers may be applied.
WENDELL, ISAAC PENNINGTON	3290	15th Dec. 1870	Springs chiefly designed for railway and other carriages. (*Patented by William Robert Lake.*)
WENNER, ALFRED - - -	1995	14th July 1870	Fire-bars and grates. (*Patented by Ernest Mehl.*)
WENNER, ALFRED - - -	2723	15th Oct. 1870	An improved mode of constructing doubling, throstle and other flyers. (*Communicated by Emil Wenner.*)
WENNER, EMIL - - -	2723	15th Oct. 1870	An improved mode of constructing doubling, throstle and other flyers. (*Patented by Alfred Wenner.*)
WERKMEISTER, ALBERT -	285	31st Jan. 1870	An improved liquid meter.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
West, Daniel Kemp - -	1641	7th June 1870	Machinery for pressing cotton and other materials.
West, Henry Joseph - -	267	29th Jan. 1870	Refrigerating for the manufacture of ice and other purposes.
West, Walter - - -	1641	7th June 1870	Machinery for pressing cotton and other materials.
West, William - - -	804	18th March 1870	Improvements in steam-boilers and in apparatus for generating steam.
Westendarp, Charles Henry	36	5th Jan. 1870	Breech-loading rifles.
Westhead, Marcus Brown -	1187	23rd April 1870	Machinery for plaiting or folding tapes and other narrow fabrics.
Westhorp, Theophilus -	2454	10th Sept. 1870	Preparation of fibrous materials to render them suitable for use as lint for surgical purposes.
Westinghouse, George, junior	2235	11th Aug. 1870	Means and apparatus for working brakes for the rolling stock of railways and tramways, as also for working feed-water pumps in connection therewith. (*Patented by Charles Denton Abel.*)
Westley, Robert Jekyll -	576	26th Feb. 1870	Improved methods of constructing, converting and using billiard and other tables.
Westmacott, Percy Graham [Buchanan.	1545	27th May 1870	Apparatus for grinding or polishing plate glass or slabs of slate, stone, marble or other substances.
Weston, David McColley -	1428	18th May 1870	Machines for and the manufacture of knitted goods.
Weston, David McColley -	2550	23rd Sept. 1870	Improvements in centrifugal machines, in the suspension and driving of the same, and a new or improved combination thereof with other apparatus.
Weston, David McColley -	2704	13th Oct. 1870	Construction of self-lubricating hubs or bosses for pulleys and wheels.
Weston, J. A. - - -	1613	3rd June 1870	Improved apparatus for cleaning knives. (*Patented by Alfred Vincent Newton.*)
Westray, John - - -	2819	27th Oct. 1870	Improved moulding apparatus for cast-iron ingots and other castings.
Westwood, Joseph - -	1837	28th June 1870	Construction of ships.
Wethered, Edwin Robert -	1259	2nd May 1870	Apparatus for saving life and property from fire, applicable also for lowering weights for other purposes.
Wetmore, William Shepard	2860	31st Oct. 1870	An improved mode of protecting troops under fire.
Wetzlar, I. - - - - -	1523	26th May 1870	An improved machine for watering and sweeping streets. (*Patented by George Schück.*)
Wewerne, Jean de, the [younger.	1758	20th June 1870	Dyeing.
Whale, Daniel - - -	2780	21st Oct. 1870	A pole chain connector and disconnector for vehicles and harness and similar purposes.
Whalley, Edward - -	2254	13th Aug. 1870	Machinery for making banding.
Wharton, Arthur Howard -	2059	21st July 1870	Manufacture of carpets.
Wharton, William - -	44	5th Jan. 1870	Improvements in the spinning and manufacture of stick and roll tobacco, and in the machinery therefor, parts of which are applicable to the spinning of other fibrous materials.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WHEATON, WILLIAM - -	2418	6th Sept. 1870	Manufacture of salts of ammonia from ammoniacal gas liquor.
WHEATON, WILLIAM - -	2664	7th Oct. 1870	Process of revivifying the materials used for the purification of gas.
WHEATSTONE, CHARLES -	2897	3rd Nov. 1870	Improvements in fast-speed electro-magnetic telegraphs and in apparatus relating thereto.
WHEELER, CHARLES ANTHONY	2666	8th Oct. 1870	A new or improved protective opening or mouth to public and private parcel and letter boxes.
WHEELER, C. GILBERT - -	714	10th March 1870	Apparatus for extinguishing fire. (*Patented by William Robert Lake.*)
WHEELER, C. GILBERT - -	2172	4th Aug. 1870	Apparatus for extinguishing fire. (*Patented by William Robert Lake.*)
WHEELER, JAMES - - -	628	3rd March 1870	Fastenings for gloves and other articles.
WHEELER, NATHANIEL - -	395	10th Feb. 1870	Improved apparatus for producing fringe upon woven fabrics. (*Patented by William Robert Lake.*)
WHEELER, NATHANIEL - -	960	1st April 1870	An improvement in sewing-machines. (*Patented by Alfred Vincent Newton.*)
WHEELER, NATHANIEL - -	1687	11th June 1870	An improved embroidering attachment for sewing-machines. (*Patented by William Robert Lake.*)
WHELLAMS, CREASEY - -	2394	2nd Sept. 1870	An improved shield or mantelet for field purposes.
WHIELDON, WILLIAM - -	331	5th Feb. 1870	Kneading and mixing machines.
WHIELDON, WILLIAM - -	433	14th Feb. 1870	Improvements in cocks and valves, and in packing for the same.
WHIPP, ROBERT - - - -	375	9th Feb. 1870	Improvements in the manufacture of size, and in the application of a certain material for conditioning cotton and other fibrous substances.
WHIPP, ROBERT - - -	1020	7th April 1870	Manufacture of size.
WHIPPLE, JOHN LORENZO -	407	11th Feb. 1870	Spring seats and bed bottoms. (*Patented by William Robert Lake.*)
WHITAKER, ALFRED - -	985	4th April 1870	Improvements in or applicable to machinery for spinning mottled yarn.
WHITE, FREDERICK - -	1467	20th May 1870	Apparatus for lighting and heating purposes.
WHITE, FREDERICK - -	2872	1st Nov. 1870	Apparatus for lighting.
WHITE, FREDERICK - -	2963	10th Nov. 1870	Improvements in lamps, especially applicable to railway lamps.
WHITE, FREDERICK - -	3318	19th Dec. 1870	Improvements in lamps, especially applicable to railway and street lamps.
WHITE, GEORGE - - -	807	18th March 1870	An improved propeller for steam navigation. (*Communicated by Wilhelm Hacker.*)
WHITE, GEORGE - - -	2507	17th Sept. 1870	An improved propeller for steam navigation. (*Communicated by Mr. Wilhelm Hacker.*)
WHITE, LEEDHAM - - -	99	12th Jan. 1870	Manufacture of Portland cement.
WHITE, THOMAS - - -	1110	16th April 1870	Covers for dishes and plates and other articles and vessels.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WHITE, THOMAS - - -	2698	12th Oct. 1870	Improvements in the manufacture of boots and shoes or other coverings for the feet, parts of which improvements are also applicable in the manufacture of mill-straps or bands, harness, hose-pipes and other similar articles, and in the machinery, apparatus or means to be used for effecting such purposes.
WHITE, WILLIAM - - -	268	29th Jan. 1870	Certain parts of wearing-apparel.
WHITE, WILLIAM - - -	3093	25th Nov. 1870	Manufacture of chlorine.
WHITE, WILLIAM - - -	3139	30th Nov. 1870	Production of iron and steel and of oxide of iron.
WHITEHEAD, HENRY WALTON	455	16th Feb. 1870	Apparatus for preparing and spinning flax, tow, wool and other similar fibrous substances.
WHITEHEAD, HENRY WALTON	1531	26th May 1870	Machinery for combing wool, cotton, flax and other fibrous substances.
WHITEHEAD, HENRY WALTON	1617	4th June 1870	Machinery for combing wool, cotton, flax and other fibrous substances.
WHITEHEAD, HERBERT MA-[QUIRE.	202	22nd Jan. 1870	Preparing blocks of animal and vegetable materials for making soup or other liquid food.
WHITEHEAD, THOMAS - -	151	18th Jan. 1870	Wool combing and drawing machinery.
WHITEHEAD, THOMAS - -	455	16th Feb. 1870	Apparatus for preparing and spinning flax, tow, wool and other similar fibrous substances.
WHITEHOUSE, GEORGE - -	1762	21st June 1870	Apparatus for communicating on railway trains.
WHITEHOUSE, SAMUEL - -	661	5th March 1870	Sad irons and other smoothing irons.
WHITEMAN, WILLIAM THOMAS	425	12th Feb. 1870	Machines for printing and indenting dates on or into railway and other tickets and for analogous purposes.
WHITESMITH, ISAAC - -	1921	7th July 1870	Looms for weaving.
WHITFIELD, FREDERIC - -	187	21st Jan. 1870	Locks.
WHITFIELD, GEORGE - -	1852	29th June 1870	Construction of steam-boilers. (*Patented by Sidengham Duer.*)
WHITMORE, NATHANIEL GIL-[BERT.	1658	8th June 1870	Cartridge cases for breech loading fire-arms. (*Patented by William Edward Newton.*)
WHITTAKER, GEORGE - -	2648	6th Oct. 1870	Looms for weaving.
WHITTAKER, JOHN - -	3095	25th Nov. 1870	Machinery for forging or manufacturing untapped nuts intended for screw bolts.
WHITTEMORE, DAVID - -	3183	3rd Dec. 1870	Sewing-machines. (*Patented by Edward Thomas Hughes.*)
WHITTY, WILLIAM ALFRED -	1982	14th July 1870	Means or apparatus for indicating or recording and registering the times of arrival or leaving of workmen and others, also applicable to tell-tales for watchmen.
WHITWORTH, EDWIN - -	1321	9th May 1870	Rotary engines.
WHITWORTH, SIR JOSEPH, Ba-[ronet.	1745	17th June 1870	Improvements in fire-arms and ordnance and in rifled projectiles, and machinery for the manufacture of the same.
WHYTLAW, MATTHEW - -	226	25th Jan. 1870	An improved apparatus for feeding steam-boilers with water. (*Patented by Robert Adam Whytlaw.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WHYTLAW, ROBERT ADAM -	226	25th Jan. 1870	An improved apparatus for feeding steam-boilers with water. (*Communicated by Matthew Whytlaw and Duncan Sim.*)
WIART, LEOPOLD - - -	784	16th March 1870	Improvements in the construction of roads and ways and in the materials employed therein, which materials are also applicable to other purposes for which asphalte is generally employed. (*Patented by John Henry Johnson.*)
WICKSTEED, CHARLES, junior -	1392	16th May 1870	An improved apparatus to be employed in the filling of water carts with water.
WIEGAND, S. LLOYD - -	1856	30th June 1870	Improvements in steam generators and in furnaces therefor. (*Patented by William Robert Lake.*)
WIEGAND, S. LLOYD - -	3390	29th Dec. 1870	Improvements in steam generators and in furnaces therefor. (*Patented by William Robert Lake.*)
WIFFEN, ROBERT ARTHUR -	682	8th March 1870	A new construction of tapping cock or apparatus for drawing liquids from casks or other vessels.
WIGFULL, WILLIAM - -	1901	5th July 1870	Improved methods of connecting together the vertical and horizontal bars of iron hurdles, palisading and other kinds of fencing.
WIGG, CHARLES - - -	2283	18th Aug. 1870	Manufacture of sulphuric acid.
WIGHT, CHARLES H. - -	1015	6th April 1870	An improved inkstand.
WIGHT, CHARLES H. - -	1016	6th April 1870	An improved stand or frame for containing paper, pens, ink and other stationery, in combination with a thermometer and other articles, for offices and counting-houses.
WIGNER, GEORGE WILLIAM -	364	8th Feb. 1870	Mode of and apparatus for treating and purifying sewage.
WIGNER, GEORGE WILLIAM -	679	8th March 1870	Improvements in or applicable to centrifugal drying machines or hydro-extractors.
WIGNER, GEORGE WILLIAM -	1354	12th May 1870	Improvements in deodorising and purifying sewage, and in making manure therefrom.
WIGZELL, EUSTACE - -	1212	27th April 1870	Steam-engines.
WILBAUX, AMÉDÉE AUGUSTE -	1102	14th April 1870	Producing engravings on glass, metals, wood and other substances.
WILCOCK, ALFRED - - -	915	29th March 1870	Machinery or apparatus to be employed for preparing cotton and other fibrous substances for spinning.
WILCOCK, FREDERICK - -	915	29th March 1870	Machinery or apparatus to be employed for preparing cotton and other fibrous substances for spinning.
WILCOX, BABCOCK AND —— -	1286	5th May 1870	Steam-engines. (*Patented by William Robert Lake.*)
WILDY, WILLIAM LAWRENCE	179	20th Jan. 1870	Steam-engines.
WILES, JOHN FLETCHER -	1576	30th May 1870	Electro-magnetic engines.
WILEY, MOSES HEWEY - -	1954	9th July 1870	Certain new and useful improvements in oil cabinets.
WILGOT, ALFRED - - -	2520	19th Sept. 1870	Improvements in obtaining grease and oil from soapy and greasy water, and in apparatus employed for this purpose. (*Patented by Constant Bogaerts.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WILKIN, MARMADUKE - -	596	1st March 1870	Subdividing particles of water and other fluids, and applying the same to sanitary and other purposes.
WILKINS, FREDERIC - -	674	7th March 1870	Construction of ships and other vessels.
WILKINS, JOHN - - -	2791	24th Oct. 1870	Fixing india-rubber tires and tires of any compressible materials to wheels of bicycles, velocipedes, bath-chairs and other light wheels for locomotion.
WILKINSON, FREDERICK -	2617	1st Oct. 1870	Applying tubes of paper or other material to spindles of mules and other spinning or doubling machines.
WILKINSON, JOHN, the younger	2093	25th July 1870	Process of and machinery for cleaning and finishing carpet fabrics.
WILKINSON, THOMAS - -	3287	15th Dec. 1870	Improvements in apparatus for ploughing and cultivating land by direct traction, part of which apparatus may also be used for driving thrashing and other machines.
WILLANS, JACOB GEOGHEGAN	2130	29th July 1870	Manufacture of iron and its alloys.
WILLANS, JACOB GEOGHEGAN	2831	27th Oct. 1870	Preparation and use of peat or turf and bituminous, resinous and ligneous substances, as fuel and for other purposes.
WILLANS, JACOB GEOGHEGAN	3328	20th Dec. 1870	Furnaces.
WILLCOX, CHARLES HENRY -	564	25th Feb. 1870	Construction and arrangement of mechanism for actuating sewing and other machines worked by a treadle. (*Patented by John Henry Johnson.*)
WILLEY, GEORGE - - -	3375	24th Dec. 1870	Improved treadle mechanism chiefly designed for operating sewing-machines. (*Patented by George Haseltine.*)
WILLIAMS, AARON WHITE [COOK.	1405	16th May 1870	Lawn-mowing machines.
WILLIAMS, ARTHUR DAVID -	404	11th Feb. 1870	Improvements in the manufacture of twisted metal bars to form augers and drills, and an improved composite machine for twisting such augers and drills, for screw-cutting, and for cutting metal rods, bars and tubes. (*Communicated by Monsieur Jean Boulay.*)
WILLIAMS, ARTHUR DAVID -	2220	10th Aug. 1870	Manufacture of twisted metal bars to form augers and drills, and an improved composite machine for twisting such augers and drills, and for cutting screws. (*Communicated by Jean Boulay.*)
WILLIAMS, ARTHUR DAVID -	2316	23rd Aug. 1870	Improved apparatus for boring in rock, coal, mineral, slate and other similar substances. (*Communicated by Ferdinand Villepigue.*)
WILLIAMS, CHARLES HENRY -	684	8th March 1870	Means for curing skin diseases in animals.
WILLIAMS, EDWARD COLSTON	2261	15th Aug. 1870	Water-pressure machinery to be used in the manufacture of hats and other articles.
WILLIAMS, EDWARD PAYSON -	2051	20th July 1870	Toilet and other mirrors. (*Patented by William Edward Newton.*)
WILLIAMS, HENRY JAMES -	2502	16th Sept. 1870	An improved machine for cutting mill boards, card and similar materials, to a required breadth and length.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WILLIAMS, JAMES ROBERT -	2775	21st Oct. 1870	An improved ground anchor to form the base of a straining post, telegraph post, also applicable to any other purpose where great strain is required.
WILLIAMS, JOHN - - -	2039	20th July 1870	Sewing-machines.
WILLIAMS, MILES - - -	2976	12th Nov. 1870	Improved compound lubricating oils.
WILLIAMS, RICHARD PRICE -	1566	28th May 1870	Railway switches or junction points.
WILLIAMS, THOMAS - -	789	17th March 1870	Improvements in or applicable to sewing-machines.
WILLIAMS, WALTER - -	3332	21st Dec. 1870	Machinery for shearing metals. (*Communicated by Robert Briggs.*)
WILLIAMS, WILLIAM MYRTLE	845	22nd March 1870	An improved method of counteracting the pressure on the slide valves of steam or other engines. (*Patented by William Robert Lake.*)
WILLIAMSON, THOMAS - -	2994	16th Nov. 1870	Indicators for steam-engines.
WILLIS, JOHN - - -	329	4th Feb. 1870	An improved mode of cutting leather for the soles and heels of boots and shoes.
WILLOUGHBY, JAMES - -	3357	23rd Dec. 1870	Improvements in machinery for stamping and breaking ores and separating the same from substances with which they may be combined, parts of which improvements are also applicable in the construction of steam hammers and steam-engines.
WILLOUGHBY, JOSEPH - -	3357	23rd Dec. 1870	Improvements in machinery for stamping and breaking ores and separating the same from substances with which they may be combined, parts of which improvements are also applicable in the construction of steam hammers and steam-engines.
WILLOUGHBY, SAMUEL - -	3357	23rd Dec. 1870	Improvements in machinery for stamping and breaking ores and separating the same from substances with which they may be combined, parts of which improvements are also applicable in the construction of steam hammers and steam-engines.
WILLOUGHBY, WILLIAM -	3357	23rd Dec. 1870	Improvements in machinery for stamping and breaking ores and separating the same from substances with which they may be combined, parts of which improvements are also applicable in the construction of steam hammers and steam-engines.
WILSON, CHARLES - - -	977	2nd April 1870	Equilibrium slide valves.
WILSON, EDWARD - - -	377	9th Feb. 1870	An improved crushing and disintegrating machine or mill.
WILSON, GEORGE COBURN -	2675	10th Oct. 1870	Improvements in breech-loading fire-arms and in metallic cartridges for the same. (*Communicated by General Hiram Berdan.*)
WILSON, GEORGE COBURN -	3019	18th Nov. 1870	Metallic cartridge cases. (*Communicated by General Hiram Berdan.*)
WILSON, HENRY - - -	246	27th Jan. 1870	Machines for putting together the parts of cart and other wheels.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WILSON, HENRY - - -	1994	14th July 1870	Improved mechanical arrangements for cooling and heating liquids and other substances.
WILSON, JAMES - - -	2217	10th Aug. 1870	Means or apparatus for supplying mines and other places with lighting gas.
WILSON, JOHN CHARLES -	394	10th Feb. 1870	Machinery for shearing and washing sheep or other animals.
WILSON, JOHN WALL - -	770	15th March 1870	Gun carriages and their slides. (*Patented by William Edward Newton.*)
WILSON, MATTHEW - -	493	19th Feb. 1870	Bird cages.
WILSON, NEWTON - - -	2144	1st Aug. 1870	Improvements in the construction of railway buffer and draw springs, and in bearing springs for railway carriages, and in the use of the same for carriages for common roads, such springs being adapted to other purposes.
WILSON, NEWTON - - -	3181	3rd Dec. 1870	Improvements in pulping machinery specially for cooked cereals.
WILSON, ROBERT - - -	1063	12th April 1870	Certain improvements in steam and other elastic fluid engines.
WILSON, ROBERT PORTER -	3027	18th Nov. 1870	Means for testing or measuring the quality or colour of oils and other liquids.
WILSON, THOMAS GARDNER -	3220	8th Dec. 1870	Construction of breakwaters, sea-walls, piers, jetties, and other similar constructions.
WILSON, WILLIAM - - -	1640	7th June 1870	Improvements in and apparatus for manufacturing gas for illuminating and heating, from coal oils.
WILSON, WILLIAM - - -	3298	17th Dec. 1870	Improvements in and methods or means of weaving reps.
WILSON, WILLIAM ASHLEY -	3031	19th Nov. 1870	Improved machinery or apparatus for doubling, cutting off, separating and folding paper as delivered from rotary web printing machines. (*Partly communicated by George Lauder.*)
WILSON, WILLIAM OLDFIELD	698	9th March 1870	Millstone picks.
WINBY, WILLIAM EDWARD -	2027	19th July 1870	Rails and chairs for railways and tramways.
WINDER, CHARLES ASTON -	706	10th March 1870	An improved apparatus for use in drawing and forcing air, water and other fluids.
WINDER, THOMAS - - -	1251	2nd May 1870	Combined high and low pressure steam and atmospheric engines.
WINDOW, FREDERICK RICHARD	2266	16th Aug. 1870	Improvements in obtaining proofs or impressions from printing surfaces produced by photography, and also in obtaining such printing surfaces.
WINGARD, ADAM - - -	570	26th Feb. 1870	An improved paddle wheel for propelling vessels in the water.
WINKLE, ABRAHAM VAN -	102	12th Jan. 1870	Machines for bottling soda-water and other gaseous or effervescing liquids. (*Partly communicated by Gustavus Davis Dows.*)
WINSTANLEY, ROBERT, the [younger.	751	15th March 1870	Machinery for holeing, cutting or excavating coal or other minerals.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WINTER, JAMES, the younger -	989	5th April 1870	Improved apparatus for filling glass bottles and jars with soups, jellies, fruits and other edibles, for the purpose of preserving them, the said apparatus being also applicable for filling bottles with sauces, wines, spirits, beer, liqueurs and other still and effervescing beverages, also machinery in combination with the above apparatus for corking or stoppering such said bottles and jars.
WINTER, JAMES, the younger -	2635	4th Oct. 1870	Improved apparatus for filling glass bottles and jars with soups, jellies, fruits and other edibles, for the purpose of preserving them, the said apparatus being also applicable for filling bottles with sauces, wines, spirits, beer, liqueurs and other still and effervescing beverages, also machinery in combination with the above apparatus for corking or stoppering such said bottles and jars.
WINTER, WILLIAM - -	1592	1st June 1870	Improvements in sewing-machines and in machinery or apparatus for winding the thread on to the spools or bobbins.
WINTERBOTTOM, JABEZ - -	1309	7th May 1870	Improved machinery for piercing and drilling tangs and scales for table knives and forks, table and butchers' steels and butchers' knives.
WINTERTON, JOSEPH - -	333	5th Feb. 1870	Manufacture or production of gloves.
WISE, WILLIAM LLOYD - -	603	1st March 1870	Breech-loading fire-arms. (*Communicated by Frederick Von Martini.*)
WISE, WILLIAM LLOYD - -	3228	8th Dec. 1870	Mode of and apparatus for igniting gas. (*Communicated by Wilhelm Klinkerfues.*)
WITHINSHAW, JOHN - -	2098	26th July 1870	Mills for crushing mineral and other substances.
WITTENSTROM, CARL - -	3292	16th Dec. 1870	Furnaces. (*Patented by John Donald.*)
WITTHÖFT, HEINRICH - -	340	5th Feb. 1870	Gas-burners.
WOHACK, PHILIPP - -	2256	13th Aug. 1870	Fastenings for bracelets and similar articles.
WOLSTENHOLME, JOHN - -	3387	29th Dec. 1870	Steam pumping engines.
WONLARLARSKY, NICOLAUS -	2183	5th Aug. 1870	Apparatus or appliances for raising, lowering and transporting objects. (*Patented by Charles Denton Abel.*)
WONSON, AUGUSTUS HENRY -	1638	16th June 1870	An improved metallic paint for preventing the corrosion and fouling of ships' bottoms and other surfaces in water. (*Patented by William Robert Lake.*)
WOOD, CHARLES BOUGHTON -	605	1st March 1870	Railway carriage wheels. (*Patented by Alexander Melville Clark.*)
WOOD, CHRISTOPHER - -	1215	27th April 1870	Apparatus for absorbing the overflow of oil in hydrocarbon and other lamps. (*Communicated by Leon Eugene Cameron Moore and James Shockey Hamilton.*)
WOOD, EDWARD - - -	166	19th Jan. 1870	Improvements in steam-engines and in the boilers and furnaces to be used therewith.
WOOD, EDWARD - - -	665	7th March 1870	A certain improvement in potters' glazes.
WOOD, FREDERICK - - -	605	1st March 1870	Railway carriage wheels. (*Patented by Alexander Melville Clark.*)

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WOOD, HENRY WALKER -	2491	8th Nov. 1870	Improvements in apparatus for drying and heating, amalgamating, moulding and compressing, more especially applicable to the manufacture of preserved coal.
WOOD, JAMES - - - -	200	22nd Jan. 1870	Water or other liquid or fluid meters.
WOOD, JOHN - - - -	2766	20th Oct. 1870	Certain improvements in the manufacture of ornamental metallic chains and in certain appliances for producing the same.
WOOD, THOMAS - - -	1116	16th April 1870	Improvements in the construction of omnibuses and in apparatus for indicating the number of passengers entering therein.
WOOD, WALTER ABBOTT -	635	3rd March 1870	Improved means of oiling the bearings and journals of revolving shafts, spindles and pins of reaping and mowing machines. (*Patented by James Theodore Griffin.*)
WOOD, WALTER ABBOTT -	1960	11th July 1870	Reaping and mowing machines. (*Patented by James Theodore Griffin.*)
WOOD, WALTER A. - - -	2443	9th Sept. 1870	Reaping and mowing machines. (*Patented by James Theodore Griffin.*)
WOOD, WALTER A. - - -	3344	21st Dec. 1870	Apparatus for preventing nuts working loose in reaping and mowing machines and other machinery or apparatus. (*Patented by James Theodore Griffin.*)
WOODBURY, EDWIN CHANNING	3065	23rd Nov. 1870	Improvements in brushes and in machinery for manufacturing the same. (*Patented by Alfred Vincent Newton.*)
WOODBURY, JAMES ATKINS -	837	21st March 1870	Wheels for railway engines and carriages. (*Patented by William Robert Lake.*)
WOODBURY, OSCAR DENSMORE	3065	23rd Nov. 1870	Improvements in brushes and in machinery for manufacturing the same. (*Patented by Alfred Vincent Newton.*)
WOODBURY, WALTER BENTLEY	346	7th Feb. 1870	An improved method of producing surfaces by the aid of photography.
WOODBURY, WALTER BENTLEY	2171	4th Aug. 1870	An improved method of producing surfaces by the aid of photography.
WOODCOCK, EDWIN - -	254	28th Jan. 1870	Looms for weaving.
WOODCOCK, JOSHUA - -	2874	1st Nov. 1870	Improved means or machinery for indigo-blue dyeing.
WOODCOCK, JOSHUA - -	3223	8th Dec. 1870	Improved means or machinery for indigo blue dyeing.
WOODHALL, SAMUEL - -	2582	28th Sept. 1870	Blacking or painting pipes and tubes, and the moulds in which they are formed.
WOODWARD, ADAM - -	1274	4th May 1870	Apparatus or arrangements to be used in connection with retorts for the manufacture of gas.
WOODWARD, WILLIAM - -	1274	4th May 1870	Apparatus or arrangements to be used in connection with retorts for the manufacture of gas.
WOOFE, WILLIAM - - -	811	18th March 1870	Improved means and apparatus for guiding ploughs and also for regulating the depth of working of the same.
WORNUM, ALFRED NICHOLSON	3157	1st Dec. 1870	Pianofortes.
WORRALL, JAMES - - -	2767	22nd Oct. 1870	Improved apparatus for singeing fabrics.
WORRALL, JAMES - - -	3289	15th Dec. 1870	Apparatus for singeing piece goods.
WORSNOP, GEORGE - -	983	4th April 1870	Construction of kilns.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WOTHERSPOON, JOHN - -	3360	23rd Dec. 1870	Improvements in the manufacture of welded iron and steel tubes and in apparatus therefor.
WOZNIAKOWSKI, JAN - -	2136	30th July 1870	An improved feed-water apparatus for steam-boilers.
WRAY, GEORGE OCTAVIUS -	1740	17th June 1870	Fastenings for boxes, wine cases and other articles.
WRAY, LEONARD - - -	1198	25th April 1870	Improvements in the means of and apparatus for crushing ores and other mineral substances, and separating therefrom the metals which they contain, part of which improvements is applicable to the bearings of machinery generally.
WREY, WILLIAM LONG - -	1663	9th June 1870	Means of propelling ships and vessels.
WRIGHT, GEORGE - - -	1272	3rd May 1870	Brick-making machines.
WRIGHT, HOWELL WOOD-[BRIDGE.	2359	27th Aug. 1870	Manufacture of tacks and nails. (*Patented by William Robert Lake.*)
WRIGHT, JOHN - - -	721	11th March 1870	A new apparatus for watering gardens, lawns and other purposes.
WRIGHT, JOHN - - -	2749	19th Oct. 1870	Improved machinery for preparing and printing floor-cloths.
WRIGHT, JOHN - - -	3229	8th Dec. 1870	An improvement in water and other closet seats.
WRIGHT, JOHN WILLIAM -	2562	24th Sept. 1870	Printing type. (*Patented by George Tomlinson Bousfield.*)
WRIGHT, JOSEPH - - -	112	13th Jan. 1870	An improved means or method of exhibiting names, photographs, views, designs or sketches in monuments, door or other knobs, boxes, walking-sticks, umbrellas and various other articles.
WRIGHT, JOSEPH - - -	117	13th Jan. 1870	Steam-boiler and other furnaces.
WRIGHT, PETER - - -	220	25th Jan. 1870	Knitting-machines.
WRIGHT, THOMAS - - -	1199	26th April 1870	Manufacture of lace made on bobbin net or twist lace machines.
WRIGHT, WILLIAM LECKIE [GRAHAM.	996	5th April 1870	A new or improved arrangement of apparatus for forcing and projecting liquids or fluids, and raising the temperature of the same.
WRIGHT, WILLIAM TWAITES -	1666	9th June 1870	Improved apparatus or machinery for lifting, lowering, loading and unloading hay, corn, straw and other materials.
WRIGHTSON, THOMAS - -	1803	24th June 1870	Apparatus for lowering weights.
WRIGLEY, EDWIN GRUNDY -	132	15th Jan. 1870	Rag engines.
WRIGLEY, THOMAS - - -	1208	27th April 1870	Looms for weaving.
WRIGLEY, THOMAS - - -	3148	1st Dec. 1870	Improved method of treating wood and other similar fibrous substances for the manufacture of half-stuff and paper.
WYCHERLEY, HENRY - -	2225	10th Aug. 1870	A self-acting brake for wheel carriages.
WYCHERLEY, JOHN - - -	2225	10th Aug. 1870	A self-acting brake for wheel carriages.
WYLAM, EDWARD - - -	2607	30th Sept. 1870	An improved oven for baking biscuits, bread and other aliments.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
WYLDE, JAMES - - -	3399	30th Dec. 1870	Improvements in deodorizing and purifying sewage, urine and refuse matters and liquids, and in making manure therefrom, and in apparatus for those purposes.
WYNDHAM, CHARLES - -	22	3rd Jan. 1870	Apparatus connected with bicycles or two-wheeled velocipedes.
WYNDHAM, CHARLES - -	690	8th March 1870	Bicycles.

X.

XIMENES, HENRY COCKBURN [MILNE.	1494	24th May 1870	Hardening, preserving and facing stone, chalk, brick and other building materials.

Y.

YARDLEY, DAVID - - -	3400	30th Dec. 1870	Spades, shovels, forks and other like implements.
YARROW, THOMAS RICHARDSON	1389	14th May 1870	Improvements in springs and in apparatus for making the same.
YATES, JAMES - - -	1403	16th May 1870	Taps or stopcocks.
YATES, WALTER EDWARD -	908	28th March 1870	Looms for weaving.
YATES, WALTER EDWARD -	2234	11th Aug. 1870	Certain improvements in looms for weaving.
YATES, WALTER EDWARD -	3189	5th Dec. 1870	Flat irons employed in the pressing and smoothing of linen and apparel.
YEWDALL, JOHN - - -	2392	2nd Sept. 1870	Machinery for washing wool. (*Patented by Bristow Hunt.*)
YEWDALL, WILLIAM - -	2393	2nd Sept. 1870	Machinery for washing wool. (*Patented by Bristow Hunt.*)
YORATH, EVAN - - -	1666	9th June 1870	Improved apparatus or machinery for lifting, lowering, loading and unloading hay, corn, straw and other materials.
YOST, GEORGE WASHINGTON [NEWTON.	213	22nd Jan. 1870	Mowing and reaping machines. (*Patented by William Robert Lake.*)
YOUNG, CHARLES FREDERIC [TRELAWNY.	2138	1st Aug. 1870	Lubricators. (*Communicated by David Adamson.*)
YOUNG, COLIN - - -	805	18th March 1870	Machinery for sawing wood and other substances.
YOUNG, HENRY - - -	1883	2nd July 1870	Improvements in means or apparatus for measuring the flow or passage of liquids, which improvements are also applicable to obtaining motive-power.
YOUNG, HENRY BURGESS -	3358	23rd Dec. 1870	Screw propellers.

Name of Patentee.	Number of Patent.	Date.	Subject-matter of Patent.
YOUNG, JAMES WILLIAM -	1144	19th April 1870	Portable apparatus for manufacturing gas.
YOUNG, JOHN - - - -	1906	6th July 1870	Lamps.
YOUNG, JOHN CLARKSON -	2175	4th Aug. 1870	Apparatus for fastening and securing cupboards or receptacles for containing poisons or other chemical preparations, which invention is also applicable to other similar purposes.
YOUNG, ROBERT - - -	637	4th March 1870	Machinery for hulling or treating grain.
YOUNG, THOMAS PILKINGTON	1423	18th May 1870	Looms for weaving.
YOUNG, THOMAS PILKINGTON	2483	15th Sept. 1870	Certain improvements in looms for weaving.
YOUNG, WILLIAM - - -	1014	6th April 1870	Manufacture of illuminating gas.
YOUNG, WILLIAM - - -	1368	13th May 1870	Crates, packing cases and travellers' and other boxes.
YULE, JOHN - - - - -	1504	24th May 1870	Motive-power engines.
YULE, JOHN - - - - -	2619	1st Oct. 1870	Motive-power engines.

Z.

ZANNI, GEMINIANO - -	1445	19th May 1870	Magneto-electric telegraphic apparatus.
ZANNI, GEMINIANO - -	3245	10th Dec. 1870	Magnetic and electric telegraph apparatus.
ZELLER, GOTTLIEB - - -	1540	27th May 1870	Fire-arms.
ZIESCHANG, ALBERT BERNARD	115	13th Jan. 1870	Breech-loading fire-arms.
ZIPPER, FERNINAND - -	2276	17th Aug. 1870	Machinery for reeling yarns.

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PATENT LAW AMENDMENT ACT, 1852.

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   APPENDIX to REFERENCE INDEX, containing abstracts from such of the early Patents and Signet Bills as describe the nature of the Invention. 1 vol. (91 pages). Price 4*s.* By Post, 4*s.* 6*d.*

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Leamington Priors (*Public Library, Town Hall*).
Leeds (*Public Library, Infirmary Buildings*).
Leicester (*Free Library, Wellington Street*).

Limerick (*Town Hall*).
Liverpool (*Free Public Library, William Brown Street*).
London (*British Museum*).
(*Society of Arts, John Street, Adelphi*).
Macclesfield (*Useful Knowledge Society*).
Maidstone (*Free Library*).
Manchester (*Free Library, Camp Field*).
Montrose (*Free Library*).
Newark, (*Mechanics' Institute, Middle Gate*).
Newcastle-upon-Tyne (*Literary and Philosophical Society*).
Newport, Monmouth (*Commercial Room, Town Hall*).
Northampton.
Norwich (*Free Library, St. John's, Maddermarket*).
Nottingham (*Free Library*).
Oldham (*School of Arts and Sciences, Lyceum*).
Oxford (*Public Free Library, Town Hall*).
Paisley (*Government School of Designs, Gilmour Street*).
Plymouth (*Mechanics' Institute, Princess Square*).
Preston, Lancashire (*Dr. Shepherd's Library, the Institution, Avenham*).
Reading (*Literary, Scientific, and Mechanics' Institution, London Street*).
Rochdale (*Commissioners' Rooms, Smith Street*).
Rotherham (*Board of Health Offices, Howard Street*).
Salford (*Royal Museum and Library, Peel Park*).
Sheffield (*Free Public Library, Surrey Street*).
Shrewsbury (*Public Museum, College Street*).
Southampton (*Hartley Institution*).
Stirling (*Burgh Library, Town House, Broad Street*).
Stockport (*Museum, Vernon Park*).
Sunderland (*Corporation Museum, Athenæum, Fawcett Street*).
Wakefield (*Mechanics' Institution, Barstow Square*).
Warrington (*The Museum and Library*).
Waterford (*Town Hall, The Mall*).
Wexford (*Mechanics' Institute, Crescent Quay*).
Wigan.
Wolverhampton (*School of Practical Art, Darlington Street*).
Wolverton (*Railway Station*).
York (*Lower Council Chamber, Guildhall*).

The Commissioners of Patents have also presented complete sets of their publications to the following Public Offices, Seats of Learning, Societies, British Colonies, and Foreign States :—

Public Offices, &c.

Admiralty—Director of Works' Department.
Chief Constructor's Department.
Chatham Dockyard.
Sheerness ditto.
Portsmouth ditto.
Devonport ditto.
Pembroke ditto.
Artillery Institute, Woolwich.
Board of Trade, Whitehall.
Ordnance Office—Pall Mall.
Small Arms Factory, Enfield.
War Office, Pall Mall.
India Office.
Royal School of Mines, &c., Jermyn Street, Piccadilly.
Dublin Castle, Dublin.
Record and Writ Office, Chancery, Dublin.
Office of Chancery, Edinburgh.

Seats of Learning and Societies.

Cambridge University.
Trinity College, Dublin.
Queen's College, Galway.
Incorporated Law Society, Chancery Lane, London.

British Colonies.

Antigua.
Barbados.
British Guiana.
Canada—Library of Parliament, Ottawa.
Bureau of Agriculture, Toronto.
Board of Arts and Manufactures, Montreal.
Cape of Good Hope.
Ceylon.
India—Bengal.
Bombay.
Madras.
North-westProvinces.
Jamaica.
Malta.
Mauritius.
New Brunswick.
Newfoundland.
New South Wales.
New Zealand.
Nova Scotia.
Prince Edward Island.
South Australia—Colonial Institute, Adelaide.
Tasmania.
Trinidad.
Victoria—Parliamentary Library, Melbourne.
Patent Office. Melbourne.
Public Library, Melbourne.

Foreign States.

Argentine Republic—Buenos Ayres.
Austria—Handels Ministerium, Vienna.
Bavaria—Königliche Bibliothek, Munich.
Belgium—Ministère de l'Intérieur, Brussels.
Musée de l'Industrie, Brussels.
France—Bibliothèque Impériale, Conservatoire des Arts et Métiers, Hôtel de Ville, } Paris.
Société Industrielle de Mulhouse.
Gotha—Ducal Friedenstein Collection.
Italy—Ufficio delle Privative, Florence.
Netherlands—Harlem.
Prussia—Gewerbe-Akademie, Berlin.
Königliche Bibliothek, Berlin.
Königliche Polytechnische Schule, Hanover.
Russia—Bibliothèque Impériale, St. Petersburg
Saxony—Polytechnische Schule, Dresden.
Spain—Madrid.
Sweden—Teknologiska Institutet, Stockholm.
United States—Patent Office, Washington.
Astor Library, New York.
State Library, Albany.
Franklin Institute, Philadelphia.
Free Library, Boston.
Library Company, Philadelphia
Library Association, Chicago.
Peabody Institute, Baltimore.
Historical Society, Madison, Wisconsin.
Cornell University, Ithaca, N.Y.
Mercantile Library, St. Louis.
Wurtemberg—Bibliothek des Musterlagers, Stuttgart.

Grants of complete series of Abridgments of Specifications have been made to the undermentioned Mechanics, Literary, and Scientific Institutions:—

Aberystwith (*Literary and Working Men's Reading Room*).
Alnwick (*Scientific and Mechanical Institution*).
Altrincham (*Altrincham and Bowdon Literary Institution*).
Ashby-de-la-Zouch (*Mutual Improvement Society*).
Bacup (*Mechanics' Institution*).
Ballymoney (*Town Hall*).
Banbridge (*Literary and Mutual Improvement Society*).
Banbury (*Mechanics' Institution*).
Barnstaple (*Literary and Scientific Institution*).
Bath (*Athenæum*).
Batley (*Mechanics' Institution*).
Battle (*Young Men's Christian Association*).
Belfast (*Athenæum*).
Berkhampstead, Great (*Working Men's Club*).
Birmingham (*Birmingham Heath and Smethwick Working Men's Club and Institute*).
(*Bloomsbury Institution*).
(*Central Lending Library*).
(*Deritend Working Men's Association*).
(*Graham Street Institution*).
Bodmin (*Literary Institution*).
Bolton (*Mechanics' Institution*).
(*School of Art*).
Bradford, near Manchester (*Bradford Working Men's Club*).
Bradford, Yorkshire (*Library and Literary Society*).
(*Mechanics' Institute*).
Brampton, near Chesterfield (*Local Museum and Literary Institute*).
Breage, Cornwall (*Breage Institution*).
Bristol (*Athenæum*).
(*Institution*).
(*Law Library Society*).
(*Library*).
Bromsgrove (*Literary and Mechanics' Institute*).
Burnley (*Mechanics' Institution*).
(*Literary Institution*).
Burslem (*Wedgwood Institute*).
Bury St. Edmund's (*Mechanics' Institution*).
Canterbury (*Working Men's Club*).
Cardiff (*Free Library and Museum*).
Cardigan (*Mechanics' Institute*).
Carharrack (*Literary Institute*).
Carmarthen (*Literary and Scientific Institution*).
Cheltenham (*Literary and Philosophical Society*).
(*Permanent Library*).
(*Working Men's Club*).
Chertsey (*Literary and Scientific Institution*).
Chester (*City Library and Reading Room*).
Chesterfield (*Mechanics' Institution*).
Chichester (*Literary and Philosophical Society*).
(*Literary Society and Mechanics' Institute*).
Coalbrookdale (*Literary and Scientific Institution*).
Cockermouth (*Mechanics' Institution*).
Colchester (*Literary Institution*).
(*Young Men's Christian Association*).
Compstall (*Athenæum*).
Coventry (*Free Library*).
(*Institution*).
(*School of Art*).
Crediton (*Working Men's Club*).
Dartmouth (*Mutual Improvement Society*).
Darwen, Over (*Mechanics' Institution*).
Deal (*Deal and Walmer Institute*).
Denton (*Denton and Haughton Mechanics' Institution*).
Derby (*Mechanics' Institution*).
Devonport (*Mechanics' Institute*).
Dewsbury (*Mechanics' Institution*).
Doncaster (*Free Library*).
(*Great Northern Mechanics' Institute*).
Dorchester (*County Museum and Library*).
Dorchester (*Working Men's Institute*).
Dudley (*Mechanics' Institution*).
Dumbarton (*Philosophical and Literary Society*).
Dumfries (*Mechanics' Institution*).
Dunkinfield (*Mechanics' Institute*).
(*Village Library and Reading Room*).
Eagley, Bolton-le-Moors (*Library and Institute*).
Earlestown, Newton-le-Willows (*Mutual Improvement Society*).
Edinburgh (*Horological Society*).
(*Mechanics' Library*).
(*Philosophical Institution*).
(*Royal Society of Arts*).
(*Royal Scottish Society of Arts*).
(*Subscription Library*).
(*Watt Institution and School of Art*).
(*Working Men's Club*).
Egham (*Literary Institute*).
Egremont (*Mechanics' Institution*).
Exeter (*Devon and Exeter Institution*).
Faversham (*Institute*).
Frome (*Literary and Scientific Institution*).
Gainsborough (*Literary, Scientific, and Mechanics' Institute*).
Garforth, near Leeds (*Working Men's Club*).
Glasgow (*Athenæum*).
(*Central Working Men's Club and Institute*).
(*Institution of Engineers in Scotland*).
(*Mechanics' Institution, Bath Street*).
(*Philosophical Society*).
Grantham (*Public Literary Institution*).
Gravesend (*Gravesend and Milton Library and Reading Rooms*).
Greenwich (*Working Men's Institute*).
Guildford (*Mechanics' Institute*).
Halesworth (*Mechanics' Institute*).
Halifax (*Literary and Philosophical Society*).
(*Mechanics' Institute*).
(*Working Men's College*).
Haslingdon (*Institute*).
Hastings (*Literary Institution*).
Hawarden (*Literary and Scientific Institution*).
Hebden Bridge, near Todmorden (*Mechanics' Institution*).
Helston (*Reading Room and Library*).
Hereford (*Natural History, Philosophical, Antiquarian, and Literary Society*).
Hertford (*Literary and Scientific Institution*).
Heywood (*Mechanics' Institute*).
Holbeck (*Mechanics' Institution*).
Hollingwood (*Working Men's Club*).
Holywell Green (*Mechanics' Institution*).
Huddersfield (*Mechanics' Institution*).
Hull (*Church Institute*).
(*Literary, Scientific, and Mechanics' Institute*).
(*Lyceum Library*).
(*Royal Institution, Albion Street*).
(*Young People's Institute*).
Huntingdon (*Literary and Scientific Institute*).
Kendal (*Christian and Literary Institution*).
(*Working Men's Institute*).
Kidderminster (*Mechanics' Institute*).
Lancaster (*Mechanics' Institute and School of Science*).
Leeds (*Church Institute*).
(*Library*).
(*Mechanics' Institution and Literary Society*).
(*Philosophical and Literary Society*).
(*Working Men's Institute*).
(*Young Men's Christian Association*).
Leighton Buzzard (*Working Men's Mutual Improvement Society*).
Leith (*Mechanics' Subscription Library*).

Lewes (*Mechanics' Institute*).
(*School of Science and Art*).
Lincoln (*Mechanics' Institute*).
Liverpool (*Institute*).
(*Mechanics' Institute*).
(*Medical Institution*).
(*Polytechnic Society*).
Llanelly (*Chamber of Commerce and Reading Room*).
London (*Athenæum Club, Pall Mall*).
(*Beaumont Institute, Mile End*).
(*Bedford Working Men's Institute, Spitalfields*).
(*Birkbeck Institution, Southampton Buildings, Chancery Lane*).
(*Bow Common Working Men's Club, Devon Road, Bow Common*).
(*Christchurch Working Men's Club, New Street, Lark Hall Lane, Clapham*).
(*Clerkenwell Club, Lower Rosoman Street*).
(*Holloway Working Men's Club and Institute, Holloway Road*).
(*Literary and Scientific Society, Wellington Street, Islington*).
(*Literary and Scientific Institution, Walworth*).
(*St. James and Soho Working Men's Club, Rupert Street, Soho*).
(*St. Mary Charterhouse Working Men's Club, Golden Lane*).
(*South London Working Men's College, Blackfriars Road*).
(*Southwark Working Men's Club, Broadwall, Stamford Street*).
(*Spring Vale Institute, Hammersmith*).
(*Working Men's Club, Brixton Hill*).
(*Working Men's Club, St. Mark's, Victoria Docks*).
(*Working Men's Club and Institute Union, Strand*).
(*Working Men's Club and Institute, Battersea*).
(*Working Men's College, Great Ormond Street*).
Loughborough (*Working Men's Club and Institute*).
Madeley (*Anstice Memorial, Workmen's Club and Institute.*)
Manchester (*Athenæum*).
(*Law Library*).
(*Mechanics' Institution*).
(*Natural History Museum, Peter Street*).
(*Portico Library, Mosley Street*).
(*Royal Exchange Library*).
Mansfield (*Co-operative Industrial Society*).
(*Mechanics', Artizans', and Apprentices' Library*).
Melksham (*Mutual Improvement Society.*
Merthyr-Tydfil (*South Wales Institute of Engineers*).
Middlesborough (*Mechanics' Institution*).
Modbury (*Mechanics' Institute*).
Mossley (*Mechanics' Institution*).
Newark (*Mechanics' Institute*).
Newcastle-upon-Tyne (*Mechanics' Institution*).
(*Working Men's Club*).
New Mills, near Stockport (*Mechanics' Institute*).
Newport, Isle of Wight (*Young Men's Society and Reading Room*).
Northampton (*Mechanics' Institute*).
Nottingham (*Free Library*).
(*Mechanics' Institution*).
(*Subscription Library, Bromley House*).
Oldham (*Analytic Literary Institution*).
(*Mechanics' Institution, Werneth*).
Ormskirk (*Public Library*).
Oswestry (*Institute*).
Patricroft (*Mechanics' Institution*).
Pembroke Dock (*Mechanics' Institute*).
Pendleton (*Mechanics' Institution*).
Penryn (*Working Men's Club and Reading Room*).
Perth (*Mechanics' Library, High Street*).
Peterborough (*Mechanics' Institution*).
Plymouth (*Working Men's Institution*).
Poole (*Literary and Scientific Institution*).
(*Mechanics' Institute*).
Portsea (*Athenæum and Mechanics' Institution*).
Preston (*Avenham Institution*).
(*Society of Useful Knowledge*).
Rawtenstall (*Mechanics' Institution*).
Richmond (*Working Men's College*).
Rotherham (*Rotherham and Masbro' Literary and Mechanics' Institute*).
Royston (*Institute*).
Ryde, Isle of Wight (*Philosophical and Scientific Society*).
Saffron Walden (*Literary and Scientific Institution*).
St. Just (*Institution*).
St. Leonards (*Mechanics' Institution*).
Salford (*Working Men's Club*).
Saltaire (*Literary Institute*).
Selby (*Mechanics' Institute*).
Sheffield (*Branch Free Library*).
(*Literary and Philosophical Society, School of Arts*).
Skipton, Yorkshire (*Mechanics' Institute*).
Southampton (*Hartley Institution*).
(*Polytechnic Institution*).
Southport (*Athenæum*).
South Shields (*Working Men's Institute and Club*).
Spalding (*Mechanics' Institute*).
(*Christian Young Men's Association*).
Staines (*Literary and Scientific Institution*).
(*Mechanics' Institute and Reading Room*).
Stamford (*Institution*).
Stourbridge (*Church of England Association*).
(*Iron Works Reading Room and Library*).
(*Mechanics' Institution*).
(*Working Men's Institute*).
Stratford (*Working Men's Hall*).
Sunderland (*Working Men's Club*).
Swansea (*Royal Institution of South Wales*).
(*Working Man's Institute*).
Tavistock (*Mechanics' Institute*).
(*Public Library*).
Thornton, near Bradford (*Mechanics' Institute*).
Thornton Heath, Croydon (*Workmen's Club*).
Todmorden (*Mechanics' Institution*).
Truro (*Cornwall County Library*).
(*Institution*).
(*Royal Institution of Cornwall*).
Tunbridge Wells (*Mechanics' Institution*).
(*Society of Literature and Science*).
Turton, near Bolton (*Chapel Town Institute*).
Ulverston (*Temperance Hall*).
Uttoxeter (*Mechanics' Literary Institute*).
Wakefield (*Mechanics' Institute*).
Watford (*Literary Institute*).
Wells, Somerset (*Young Men's Society*).
(*Mechanics Institution, Grove Lane*).
Whaleybridge (*Mechanics' Institute*).
Whitby (*Institute*).
(*Museum*).
(*Subscription Library*).
Whitehaven (*Mechanics' Institute*).
(*Working Men's Reading Room*).
Wisbeach (*Mechanics' Institute*).
Wolverhampton (*Library*).
Wolverton (*Institute*).
Woodbridge (*Literary and Mechanics' Institute*).
(*Working Men's Hall*).
Worcester (*Railway Literary Institute*).
(*Workmen's Hall*).
Workington (*Mechanics' Institution*).
York (*Church Institute*).
(*Institute of Popular Science, &c.*).
(*Railway Library*).

Presentations of portions of the Works, published by order of the Commissioners of Patents, have been made to the following Libraries :—

Armagh (*Town Clerk's Office*).
Aylesbury (*Mechanics' Institution and Literary Society, Kingsbury*).
Birmingham (*Institution of Mechanical Engineers, Newhall Street*).
Boston, Lincolnshire (*Public Offices, Market Place*).
Cambridge (*Free Library, Jesus Lane*).
Chester (*Mechanics' Institute, St. John Street*).
Coalbrookdale (*Literary and Scientific Institution*).
Coventry (*Watchmakers' Association*).
Dublin (*Dublin Library, D'Olier Street*).
Edinburgh (*Horological Society*).
Ennis (*Public Library*).
Gloucester (*Working Men's Institute, Southgate Street*).
Ipswich (*Mechanics' Institute, Tavern Street*).
Kew (*Library of the Royal Gardens*).
Kington, Herefordshire (*Reading Institute*).
Leominster (*Literary Institute*).
London (*House of Lords*).
(*House of Commons*).
(*Hon. Soc. of Gray's Inn*).
(„ „ *Inner Temple*).
(„ „ *Lincoln's Inn*).
(„ „ *Middle Temple*).
(*Aeronautical Society*).
(*British Horological Institute*).
(*General Post Office*).
(*Institution of Civil Engineers*).
(*Odontological Society*).
London (*Royal Society*).
(*United Service Museum*).
Manchester (*Literary and Philosophical Society, George Street*).
(*Mechanics' Institution, David Street*).
Newcastle-upon-Tyne (*North of England Institute of Mining Engineers*).
Oxford (*Bodleian Library*).
Stretford, near Manchester (*Mechanics' Institute*).
Swindon, New (*Mechanics' Institute*).
Tamworth (*Library and Reading Room, George Street*).
Yarmouth, Norfolk (*Public Library, South Quay*).

British Colonies and Foreign States.

British Columbia—Mechanics' Institute, Victoria.
Public Library, New Westminster.
France—Academy of Science, Paris.
Netherlands—Bibliothèque de l'Ecole Polytechnique de Delft.
Russia—Imperial Technological Institute, St. Petersburg.
Turkey—Literary and Scientific Institute, Smyrna.
United States—American Academy of Arts and Sciences, Boston.
American Institute, New York.
American Society of Civil Engineers, New York.
Odd Fellows' Library Association, San Francisco.
Smithsonian Institute, Washington.

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